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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1901.

No. 590.

THE NEW ORLEANS WATER WORKS COMPANY, PLAINTIFF IN ERROR,

vs.

THE STATE OF LOUISIANA, THE CITY OF NEW ORLEANS, AND THE BOARD OF LIQUIDATION OF THE CITY DEBT.

IN ERROR TO THE SUPREME COURT OF THE STATE OF LOUISIANA.

FILED MARCH 10, 1902.

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INDEX.

	Original.	Print.
Caption	*a*	1
Proceedings had in the civil district court for the parish of Orleans	1	1
Petition of plaintiff for forfeiture of charter	1	1
Contract of City of New Orleans with New Orleans Water Works Co., an ordinance authorizing same	5	5
Resolution of the city council requesting the attorney general of the State of Louisiana to bring suit	15	10
Exception of New Orleans Water Works Co	16	11
Cause submitted	19	14
Exception overruled	19	14
Answer of the New Orleans Water Works Co	20	15
Exhibit A, annexed to defendant's answer, authorizing Labatut, president, to transfer, etc	39	36
Act of transfer	40	37
Exhibit "B"—Transfer of City of New Orleans to New Orleans Water Works Co., annexed to defendant's answer	55	45
Report on election of three directors by stockholders	65	51

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	Original.	Print
Ordinance 4416, A. S., to authorize transfer to New Orleans Water Works Co.	66	56
Motion and order of board of directors authorizing transfer	66	52
Exhibit "C," annexed to defendant's answer	68	52
Petition of intervention of the Board of Liquidation of the City Debt	72	58
Order directing filing of petition of intervention	83	65
Cause reassigned for trial	83	65
Petition of intervention of the City of New Orleans, order of court thereon, and document annexed as part thereof	84	65
Exception of the New Orleans Water Works Co. to intervention of the City of New Orleans	86	67
Exception overruled	88	69
Note of evidence on behalf of defendant	89	69
Stipulation and agreement of counsel	90	70
Answer of the New Orleans Water Works Co. to intervention of the City of New Orleans	91	71
Answer and plea of the City of New Orleans to the intervention of the Board of Liquidation	93	73
Record No. 9565, John Foster *vs.* The New Orleans Water Works Co., offered in evidence by plaintiff	94	73
Record No. 9567, Allen & Syme *vs.* The New Orleans Water Works Co., offered in evidence by plaintiff	97	75
Record 9568, Louis Ruch *vs.* New Orleans Water Works Co., offered in evidence by plaintiff	100	77
Record No. 9566, Ernest & Co. *vs.* The New Orleans Water Works Co., offered in evidence by plaintiff	103	79
Record 9569, Warner & Hoelzel *vs.* New Orleans Water Works Co., offered in evidence by plaintiff	107	81
Tariff of Water Works Co., offered in evidence by plaintiff	110	83
Veto message from the mayor on the tariff of water charges	117	88
Action of city council on veto of mayor	118	89
Profit and loss account, document 10	123	92
Water pumped annually, document 9	124	93
Document 8, dividends declared annually	125	94
Document 7, operating expenses	126	94
Street service repairs and pumping service repairs, document 6	127	95
Letter from McMurdo asking to be allowed to withdraw report, document 5	128	96
Operating expenses, document 4	128	97
Dividends declared annually, document 3	130	98
Operating expenses, document 2	131	99
Report of City Engineer Bell, estimate of number of miles of streets	132	100
Copy of concurrent resolution appointing committee to investigate complaints against New Orleans Water Works Co.	132	100
Peremptory exception of defendant	135	100
Resolution of the Orleans Parish Medical Society, offered in evidence by plaintiff; petition for an improved water supply	136	102
Rule of New Orleans Water Works against Paul O. Guerin, clerk of the civil district court, and Frank Marquez, civil sheriff	136	102
Answer of Frank Marquez, civil sheriff, to motion of defendant	138	103

	Original.	Print
Answer of P. O. Guerin, clerk of civil district court	138	104
Answer of James W. Kelly, recorder of mortgages	140	105
Correspondence between H. L. Favrot and New Orleans Water Works Co.	141	105
Rule of State of Louisiana against defendant company for production of books	142	106
Exception of New Orleans Water Works Co. to order to produce books	143	107
Cause heard and continued	146	108
Rule of defendant company against the clerk of the civil district court dismissed	146	109
Reasons for judgment dismissing rule against clerk and civil sheriff	146	109
Exhibit marked Ordway 3880, offered in evidence by plaintiff	155	115
Exception of Board of Liquidation	157	116
Statement of bills payable, offered in evidence by plaintiff	158	116
Statement of city taxes paid by the New Orleans Water Works Co.	159	117
Statement of meters in use, offered in evidence by plaintiff	160	118
Statement of receipts for sale of water, marked 902, offered in evidence by plaintiff	161	118
Motion of defendant company for *subpœna duces tecum*	162	119
Motion of defendant company for *subpœna duces tecum*	163	119
Application for water supply, contract with Illinois Central Railroad Company	164	120
List of open and closed hydrants filed in evidence	166	122
Amount expended annually since 1877 on permanent improvements	168	124
Motion for temporary removal of water-works books	169	124
Contract of New Orleans Ice Co. with New Orleans Water Works Co.	170	125
Exhibit from "Daily Item" of October 12, 1899	171	125
Agreement with New Orleans Ice Co.	173	127
Bills paid water works company offered in evidence by plaintiff	174	127
Supplemental and amended answer of the City of New Orleans to the intervention of the Board of Liquidation	175	128
Order endorsed on foregoing answer	176	129
List of defendant's offers in evidence	177	129
Agreement of counsel as to transcript of appeal	184	137
Report of L. H. Gardner and agreement of counsel, August 5, 1891	187	136
Report to board, August 5, 1891	192	139
Report dated January 6, 1892	194	139
Report of superintendent, August, 1893	196	140
Report to board, March 7, 1894 (of superintendent)	197	140
Report of superintendent, July 5, 1894	198	142
Extract from superintendent's report of October 3, 1894	199	142
Report of superintendent, November 7, 1894	201	144
Report of superintendent, March 6, 1895	203	145
Report of superintendent, October 26, 1895; complaints of railroads concerning water supply	205	146
Memorandum of July 1, 1896; report of superintendent	206	147

INDEX.

	Original.	Print
Report of superintendent, January 6, 1897	208	148
Report of superintendent, February 3, 1897	210	149
Agreement touching foregoing copies of report of superintendent	211	149
Cause argued and submitted	212	149
Reasons for judgment	213	150
Judgment	281	197
Judgment signed	281	197
Motion by the State of Louisiana for appeal and order	282	197
Motion by the City of New Orleans for appeal and order	282	198
Agreement of counsel as to transcript	283	198
Certificate of the clerk of the civil district court	284	199
Statement of L. H. Gardner, January 19, 1900, as to contract with New Orleans Ice Co., offered in evidence by plaintiff	285	200
Testimony and notes of evidence	287	201
Testimony of J. P. Halpin (for plaintiff)	292	204
A. C. Bell (for plaintiff)	298	208
Caspar Petrie (for plaintiff)	304	212
Captain M. P. Cashen (for plaintiff)	307	214
S. Jozsa (for plaintiff)	312	217
Charles Tempe (for plaintiff)	315	219
John Keaveny (for plaintiff)	316	220
J. B. Harris (for plaintiff)	325	226
Captain Dady (for plaintiff)	327	227
Thomas Murphy (for plaintiff)	329	229
Ed Mayer (for plaintiff)	334	232
Vic Young (for plaintiff)	337	235
Col. Wm. H. Byrnes (for plaintiff)	339	236
Dr. Henry Bezou (for plaintiff)	348	242
Robert B. Parker (for plaintiff)	351	245
Dr. C. Edmund Kells (for plaintiff)	352	246
Sidney Story (for plaintiff)	356	249
James Buckley (for plaintiff)	358	250
George A. Traugh (for plaintiff)	361	253
Max Fraenkel (for plaintiff)	364	255
Sam. Blum (for plaintiff)	365	256
Alex. Bloksdorff (for plaintiff)	368	258
Ben. Cason, Jr. (for plaintiff)	369	259
Dr. H. Ford (for plaintiff)	373	262
W. J. Brophy (for plaintiff)	373	262
Ely Landauer (for plaintiff)	376	265
R. E. L. C. Ries (for plaintiff)	379	267
Thomas F. King (for plaintiff)	380	268
Emile Idrey (for plaintiff)	381	268
J. J. Manson (for plaintiff)	382	270
H. C. Osborne (for plaintiff)	387	273
Prof. John M. Ordway (for plaintiff)	390	276
William Losch (for plaintiff)	406	287
A. P. Rabito (for plaintiff)	409	290
W. P. Kirchorff (for plaintiff)	412	292
John S. Anderson (for plaintiff)	414	293
Eugene May (for plaintiff)	418	296
J. M. Villavaso (for plaintiff)	421	298

	Original.	Print
Testimony of A. P. Rabito (recalled for plaintiff)	422	299
Raoul Bonnot (for plaintiff)	424	300
George S. Kausler (for plaintiff)	426	302
J. E. Penn (for plaintiff)	428	304
Robert Hicks (for plaintiff)	431	306
Phil R. Rice (for plaintiff)	431	307
F. Jaubert (for plaintiff)	434	309
J. C. Schaaf (for plaintiff)	435	310
Peter Brown (for plaintiff)	436	310
Charles Bedell (for plaintiff)	437	312
Fred Cross (for plaintiff)	439	313
Otto Helmann (for plaintiff)	441	315
Jacob Eckendorff (for plaintiff)	442	316
J. B. Duvilh (for plaintiff)	443	317
C. B. McGuire (for plaintiff)	443	317
Martin Cull (for plaintiff)	445	319
Charles Beucler (for plaintiff)	445	319
Dr. E. J. Miller (for plaintiff)	447	321
Henry Charnock (for plaintiff)	455	326
J. P. Despoux (for plaintiff)	458	328
M. P. Brown (for plaintiff)	459	330
W. B. Leonard (for plaintiff)	460	330
William Clark (for plaintiff)	461	331
Sol Haas (for plaintiff)	462	332
J. D. Sherman (for plaintiff)	464	334
Henry Reilly (for plaintiff)	466	335
Michel Biri (for plaintiff)	469	338
H. F. Grant (for plaintiff)	474	341
Captain F. Michel (for plaintiff)	477	343
Meyer Israel (for plaintiff)	480	345
J. N. W. Otto (for plaintiff)	481	347
R. J. Osborne (for plaintiff)	482	347
Scott McGehee (for plaintiff)	485	350
L. Fabacher (for plaintiff)	489	352
Captain Dane (for plaintiff)	492	355
L. N. Brunswig (for plaintiff)	497	358
Moses Schwartz (for plaintiff)	497	358
Captain Cashen (recalled for plaintiff)	499	359
Captain James O'Neil (for plaintiff)	504	363
H. L. Favrot (for plaintiff)	512	369
John Mandot (for plaintiff)	516	371
Prof. Ordway (recalled for plaintiff)	518	373
J. T. Delahy (for plaintiff)	534	384
S. G. Kreeger (for plaintiff)	536	385
A. S. Gelpi (for plaintiff)	537	385
Tony Brasco (for plaintiff)	538	387
Miles S. Waterman (for plaintiff)	540	389
W. H. Littman (for plaintiff)	544	392
Captain Wattingly (for plaintiff)	545	393
W. J. Kane (for plaintiff)	548	395
Armand Preau (for plaintiff)	550	396
Louis Martin (for plaintiff)	550	397
J. H. Strauch (for plaintiff)	551	398

	Original.	Prin
Testimony of E. Offner (for plaintiff)	556	401
A. Seamel (for plaintiff)	560	402
Theodore Dennery (for plaintiff)	562	405
Charles Marshall (for plaintiff)	565	406
A. Zodiag (for plaintiff)	568	409
William L. Railey (for plaintiff)	571	411
W. P. Dodsworth (for plaintiff)	572	412
E. G. Schleider (for plaintiff)	572	412
Dr. John Callan (for plaintiff)	574	414
J. F. Garcia (for plaintiff)	580	417
Louis Zenor (for plaintiff)	581	418
J. F. Herberger (for plaintiff)	583	420
Frank L. Levy (for plaintiff)	587	423
H. C. Remos (for plaintiff)	591	425
William R. Railey (recalled for cross-examination)	595	428
A. P. Noll (for plaintiff)	598	430
W. E. Dodsworth (recalled for plaintiff)	600	432
W. F. Simpson (for plaintiff)	602	433
Justin Denechaud (for plaintiff)	604	434
J. L. Delhonde (for plaintiff)	613	440
Dr. Geo. K. Pratt (for plaintiff)	616	442
L. W. Brown (for plaintiff)	622	446
R. D. Lampson (for plaintiff)	625	448
A. C. Bell (recalled for plaintiff)	628	450
George H. Granjean (for plaintiff)	634	455
A. C. Bell (recalled)	636	456
J. Baltar (for plaintiff)	640	459
A. P. Marmouget (for plaintiff)	642	460
J. U. Adams (for plaintiff)	643	461
J. P. Dominick (for plaintiff)	645	462
Emile Hoffman (for plaintiff)	647	463
Dr. Luther Sexton (for plaintiff)	650	465
Tony Parker (for plaintiff)	659	471
James Keaveney (for plaintiff)	661	472
Thomas E. Lynch (for plaintiff)	666	475
Charles Holloway (for plaintiff)	668	476
W. G. Tebault (for plaintiff)	669	477
J. B. Mueller (for plaintiff)	671	478
George Cron (for plaintiff)	672	479
A. J. Coburn (for plaintiff)	675	480
Eugene Gaupp (for plaintiff)	676	481
Jules Montreuil (for plaintiff)	680	483
J. N. Frowen (for plaintiff)	683	486
J. Siffon (for plaintiff)	684	487
J. Krumm (for plaintiff)	685	488
D. J. Lauderbach (for plaintiff)	687	489
N. Rambotis (for plaintiff)	689	491
S. G. Hevia (for plaintiff)	691	493
Charles Burdeau (for plaintiff)	692	494
O. Pittfield (for plaintiff)	695	496
L. Meyer (for plaintiff)	696	496
J. J. Thomas (for plaintiff)	701	502

		Original.	Print
Testimony of	Captain P. T. Burke (for plaintiff)	708	507
	John Boedinger (for plaintiff)	716	512
	Charles Lob (for plaintiff)	717	514
	Charles Toppino (for plaintiff)	719	515
	Joseph Burney (for plaintiff)	720	516
	C. Bensel (for plaintiff)	720	517
	N. Rambotis (for plaintiff)	722	518
	Captain John Craig (for plaintiff)	723	519
	Captain George E. Bull (for plaintiff)	729	523
	Captain Louis Bauer (for plaintiff)	732	526
	Captain Robert White (for plaintiff)	734	527
	Charles Shutten (for plaintiff)	736	529
	Sam. Henderson, Jr., (for plaintiff)	739	532
	J. A. Planchard (for plaintiff)	741	533
	Peter Blaise (for plaintiff)	742	534
	Frank Barker (for plaintiff)	744	536
	August Sein (for plaintiff)	745	536
	E. F. Denechaud (for plaintiff)	747	538
	Frank B. Moore (for plaintiff)	749	539
	Captain W. J. Lee (for plaintiff)	753	543
	Prof. A. L. Metz (for plaintiff)	755	544
	Frank Howard (for plaintiff)	757	545
	F. O. Trepagnier (for plaintiff)	760	547
	W. C. Wilson (for plaintiff)	760	548
	Alfred J. Malone (for plaintiff)	761	548
	Alex. Harris (for plaintiff)	762	549
	James Watson (for plaintiff)	763	550
	P. M. Schneidau (for plaintiff)	763	550
	S. D. Peters (for plaintiff)	765	552
	A. C. Carpenter (for plaintiff)	767	553
	J. W. Sawyer (for plaintiff)	768	554
	Frederick Staehle (for plaintiff)	769	555
	Henry Quirk (for plaintiff)	770	556
	Joseph Boegtle (for plaintiff)	772	557
	Steve Timlin (for plaintiff)	772	558
	E. G. Schleider (for plaintiff)	775	560
	August Bossio (for plaintiff)	778	562
	William Porteous (for plaintiff)	778	563
	Jacob Ulrich (for plaintiff)	779	563
	Paul Pizzini (for plaintiff)	781	565
	J. Bouchoux (for plaintiff)	782	566
	Philip Kissinger (for plaintiff)	784	568
	Herman Schuur (for plaintiff)	785	569
	Charles Ernest (for plaintiff)	787	570
	Sam. Pinski (for plaintiff)	787	571
	Edward Ranquettat (for plaintiff)	788	571
	Alfred R. Barnett (for plaintiff)	789	572
	L. Levand (for plaintiff)	791	574
	A. C. Bell (recalled for cross-examination)	792	575
	Arthur Cunio (for plaintiff)	793	575
	O. M. Dunn (for plaintiff)	795	577
	Frank Thompson (for plaintiff)	797	579
	Frank Tharpe (for plaintiff)	799	579

		Original.	Print
Testimony of	A. A. Maginnis (for plaintiff)	800	580
	R. A. Fox (for plaintiff)	808	586
	Charles Turck (for plaintiff)	809	587
	Adolph Grossman (for plaintiff)	811	588
	G. Meinderscheimer (for plaintiff)	812	589
	E. W. Smith (for plaintiff)	814	591
	George D. Thomas (for plaintiff)	816	592
	C. Thomas (for plaintiff)	817	593
	A. L. Bultman (for plaintiff)	819	595
	John H. Doyle (for plaintiff)	820	596
	Dr. A. L. Metz (recalled)	822	597
	R. Deverges (for plaintiff)	839	608
	Jacob Schoen (for plaintiff)	840	609
	T. J. Gasquet (for plaintiff)	842	611
	Edward Toby (for plaintiff)	846	613
	Edward Toby (for plaintiff)	865	624
Note of evidence for plaintiff		875	630
Testimony of	H. L. Favrot (recalled in rebuttal)	877	631
	James Legendre (recalled in rebuttal)	881	633
	J. J. Manson (recalled in rebuttal)	883	634
	Phil R. Rice (recalled for plaintiff in rebuttal)	885	635
	L. Young (recalled in rebuttal)	888	637
	Frederick Freret (recalled by plaintiff in rebuttal)	890	639
	Elias Richard (for plaintiff in rebuttal)	891	639
	A. A. Maginnis (recalled for plaintiff)	906	647
	W. T. Maginnis (for defendant)	910	650
	John L. Walters (for defendant)	911	651
	George N. Wadsworth (for defendant)	921	657
	Edgar B. Hands (for defendant)	924	660
	Walter H. Cooke (for defendant)	929	663
	Robert S. Orkney (for defendant)	932	665
	Paul Deverges (for defendant)	944	673
	M. J. Donellan (for defendant)	947	675
	Ira Haskel (for defendant)	949	676
	L. H. Gardner (for defendant)	951	678
	Geo. G. Earl (for defendant)	953	680
	D. V. Dyer (for defendant)	958	683
	F. T. Llewellyn (for defendant)	964	687
	John J. Donovan (for defendant)	974	694
	Charles W. Allen (for defendant)	976	695
	Frank T. Howard (for defendant)	982	699
	Dewitt Harrison (for defendant)	990	704
	George Selby (for defendant)	994	707
	M. Briedy (for defendant)	998	710
	John Hanafy (for defendant)	999	711
	Michael Long (for defendant)	1002	713
	John Ponder (for defendant)	1006	715
	Edward Glennon (for defendant)	1014	720
	John Edwards (for defendant)	1018	723
	Robert McNamara, Sr. (for defendant)	1020	724
	H. H. Blenk (for defendant)	1023	726
	Jules P. Blanc (for defendant)	1032	732
	J. T. Aycock (for defendant)	1034	733

	Original.	Print
Testimeny of Capt. A. K. Miller (for defendant)	1037	735
Dr. A. K. Finlay (for defendant)	1039	737
W. G. Coyle (for defendant)	1046	741
William M. Mehle (for defendant)	1047	742
Thomas J. Moulin (for defendant)	1048	742
Dr. J. D. Bloom (for defendant)	1051	744
Dr. Watkins (for defendant)	1055	747
Dr. E. S. Lewis (for defendant)	1066	753
David G. Baldwin (for defendant)	1067	754
Robert McNamara (recalled for defendant)	1069	755
Robert McNamara (recalled for defendant)	1089	767
E. B. Hands (recalled for defendant)	1112	782
T. B. Orrell (for defendant)	1120	787
T. E. Orrell (continued for defendant)	1137	798
E. B. Hands (recalled for defendant)	1158	811
M. Larkin (for defendant)	1177	823
E. J. Ryan (for defendant)	1180	825
Dan. Twiggs (for defendant)	1181	826
J. McDermott (for defendant)	1182	826
James Burke (for defendant)	1184	828
L. H. Gardner (recalled for defendant)	1185	828
Frank T. Howard (recalled for defendant)	1191	832
William McGary (recalled for defendant)	1193	833
Thomas O'Connor (for defendant)	1198	837
Henry C. Brown (for defendant)	1217	849
Richard Peete (for defendant)	1229	857
L. H. Gardner (for defendant)	1232	858
D. S. Gaster (for defendant)	1254	872
Mr. Dyer (recalled for defendant)	1259	874
George G. Earl (recalled for defendant)	1262	876
R. E. Craig (for defendant)	1280	887
L. S. Gardner (recalled for defendant)	1298	899
R. E. Craig (recalled for defendant)	1307	905
Albert Baldwin (for defendant)	1346	928
R. E. Craig (recalled for defendant)	1351	931
James J. McLoughlin (for intervenor, Board of Liquidation)	1353	933
Samuel L. Gilmore (for intervenor, Board of Liquidation)	1354	933
Bonds redeemed by the issuance of constitutional 4 per cent. bonds	1355	934
Testimony of T. Wolf (for intervenor)	1356	935
Certificate of deputy clerk, civil district court	1371	943
Mortgage from New Orleans Water Works Co. to Adolph Schreiber (for defendant)	1372	944
Extracts from proceedings of the legislative department of the council of the city of New Orleans and copies of promulgated ordinances (for defendant)	1390	957
Ordinance 952, N. S.	1425	1008
Ordinance 253, A. S. (organizing department of water works and public buildings)	1426	1009
Ordinance No. 1076, A. S., to appoint competent persons to examine water-works systems in other cities of the United States	1431	1016

	Original.	Print
Ordinance 1292, A. S., referring to letting contract for privilege of water from plugs for street sprinkling	1440	1029
Ordinance 2095, A. S., repealing ordinance 1292, A. S	1445	1036
Ordinance 3145, A. S., to provide for the lease of the water works for the city of New Orleans under certain conditions	1446	1037
Ordinance 4662, A. S., referring to water rents	1450	1043
Ordinance 4678, A. S., accepting bid for stock owned by the city of New Orleans in the New Orleans Water Works Co. in conformity with ordinance 1459, A. S	1451	1043
Affidavit of Richard Peete	1452	1044
Copy of section 27, act 164 of the legislature of Louisiana of 1856	1452	1044
Copy of mortgage by the New Orleans Water Works Co. to Charles H. Heck	1453	1045
Tariff of water rates, city water works of New Orleans, for defendant—"Hatch or Bragg" tariff	1472	1057
Affidavit of Richard Peete, "non-publication or promulgation"	1473	1058
Proceedings of board of assistant aldermen of November 19, 1867, and March 14, 1870	1476	1059
Golding's receipts for water furnished by city for defendant	1478	1060
Report of department of water works and public buildings from December 19, 1876, to December 31, 1877	1484	1064
Macmurdo's certificate, taxes paid to the city of New Orleans by the New Orleans Water Works Co. (for defendant)	1485	1100
Macmurdo's certificate, amounts paid to the city of New Orleans (for defendant)	1486	1101
Tariff of charges, rules, regulations, and city ordinances covering the introduction, supply, and consumption of water (for defendant)	1488	1102
Proceedings of the first meeting of the shareholders of defendant company	1489	1113
Bond and dividend statement for defendant—Macmurdo's certificate	1492	1114
Statement of bonded debt of New Orleans (for defendant)	1494	1115
Earl's table of city water supply and statistics as to New Orleans and other cities (for defendant)	1495	1116
Macmurdo's certificate—extracts of proceedings of board of directors of New Orleans Water Works (24 A, 24 B, 24 C, 24 D, 24 E, 24 F, 24 G)	1496	1118
Statement of water account of St. Charles Hotel by Heck & Hands, taken from records of company, and other extracts from defendant's books of water supplied other places in the city	1500	1121
Ordinance 12026, C. S., referring to Flynn's Digest	1504	1123
Extract from Flynn's Digest of Ordinances of the City, article 3147 (1), article 3148 (2), article 3149 (3)	1505	1124
Craig No. 1—Dividends declared annually by the New Orleans Water Works Co	1508	1125
No. 2—Statement of receipts and disbursements, New Orleans Water Works Co	1509	1126
No. 3—Profit and loss account, New Orleans Water Works Co	1510	1127
No. 4—Statement of net revenues, dividends, net surplus, and deficit of New Orleans Water Works Co.	1511	1128

	Original.	Print
Craig No. 5—Memorandum of State taxes paid by the New Orleans Water Works Co	1512	1129
No. 6—Memorandum of city taxes paid by New Orleans Water Works Co	1513	1129
No. 7—Assessment of New Orleans Water Works Co	1514	1130
No. 8—State tax receipt, 1898	1515	1131
No. 9—State tax receipt, 1899	1516	1132
No. 10—Extract from minutes of meeting of board of directors, New Orleans Water Works Co., November 6, 1895	1517	1133
No. 11—Extracts from minutes of special meeting of board of directors of New Orleans Water Works Co., September 9, 1892	1517	1134
No. 12—Alphabetical list of subscribers	1519	1135
No. 13—Statement of amount expended annually since 1878 on permanent improvements and extensions	1520	1141
No. 14—Letter from R. L. Macmurdo, secretary, explaining copy of list of stockholders	1521	1142
No. 15—Stock account of the Sun Mutual Ins. Co	1521	1142
No. 16—Profit and loss account	1523	1143
No. 17—Statement of bills payable	1524	1144
No. 18—Statement of cash receipts from April, 1898, to December 31, 1898	1525	1145
No. 19—Letter from New Orleans Water Works Co. to Hon. A. Brittin, acting mayor of the city of New Orleans	1526	1146
No. 20—Letter from Joseph Albrecht, dated December 1, 1896, to president of New Orleans Water Works	1527	1146
No. 21—Letter from Joseph Albrecht to president of New Orleans Water Works Co., dated December 8, 1896	1527	1147
Analysis of unfiltered hydrant water, taken on Camp street, between Canal and Common, November 21, 1895	1528	1147
Letter from Joseph Albrecht to president of New Orleans Water Works Co., dated December 17, 1896	1528	1147
Analysis of second example of hydrant water taken on December 9, 1896, on Camp street, between Canal and Common streets, and copy of letter, dated May 30, 1898, from Joseph Albrecht	1529	1148
Analysis of sample of water taken by Joseph Albrecht on December 17, 1896, in the yard of the pumping station of the New Orleans Water Works, said to be natural river water	1530	1148
Memorandum of receipts and disbursements, showing difference or net profit, etc	1531	1149
Proceedings had in the supreme court of the State of Louisiana	1533	1151
Motion, affidavit, and order for time	1533	1151
Motion, affidavit, and order for additional time	1534	1152
Transcript of appeal filed	1535	1152
Motion and order: Cause set for trial	1536	1153
Cause continued	1536	1153
Cause continued	1537	1154

	Original.	Print
Cause heard and continued	1537	1154
Cause heard and submitted	1538	1155
Opinion of the court	1538	1155
Final judgment	1573	1179
Motion and prayer for amendment of judgment (by plaintiff)	1574	1179
Petition for rehearing by defendant	1576	1181
Motion and order to file briefs	1577	1187
Opinion on application for rehearing	1577	1187
Rehearing refused	1596	1199
Order to file motion directing clerk to withhold mandate	1596	1200
Summons to Board of Liquidation	1597	1200
Petition for writ of error	1598	1201
Assignment of errors	1613	1215
Copy of writ of error lodged in clerk's office of supreme court of Louisiana	1622	1222
Bond for writ of error	1624	1223
Agreement of counsel as to transcript	1629	1226
Agreement of counsel as to transcript	1630	1227
Appendices A, B, and C to plaintiff's brief, filed in the supreme court of the State of Louisiana	1631*a*	1228
Copy of ordinance No. 12026, C. S., adopting the digest of city ordinances, etc., prepared under the provision of ordinance 10758, C. S.	1632	1229
Ordinance 10758, C. S., authorizing mayor to employ competent persons to prepare compilation of city ordinances	1633	1229
Article 3147, directing city attorney to amend answer, etc., in case of Conery *vs.* New Orleans Water Works Co. (taken from Flynn's Digest of City Ordinances)	1634	1229
Article 3148, authorizing city attorney to take action in the case of Conery *vs.* New Orleans Water Works Co. (from Flynn's Digest of City Ordinances)	1634	1230
Article 3149, repealing ordinances inconsistent, etc	1634	1230
Original writ of error	1635	1230
Citation and return of service (State of Louisiana, through Gov. Heard)	1636	1231
Citation to the city of New Orleans and return of service	1637	1232
Citation to the Board of Liquidation of the City Debt and return of service	1638	1232
Citation to the State of Louisiana and return of service on Walter Guion, attorney general	1639	1233
Certificate of clerk of the supreme court	1640	1234

a STATE OF LOUISIANA,
Parish of Orleans, City of New Orleans.

Civil District Court for the Parish of Orleans.

Appeal from judgment of the civil district court for the parish of Orleans, rendered October 19th, 1900, and signed October 25th, 1900, to the supreme court of the State of Louisiana.

Civil District Court, Division " E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS. } No. 58345.

Present: The Hon. Geo. H. Theard, judge.

1 *Petition of Plaintiff for Forfeiture of Charter.*

Filed January 23rd, 1899.

To the honorable civil district court for the parish of Orleans, Louisiana:

The petition of the State of Louisiana herein appearing through Milton J. Cunningham, attorney general of the State of Louisiana, respectfully shows:

(1.) That the city council of New Orleans has by resolution, requested him to bring this suit, as appears by a certified copy annexed and made part hereof.

(2.) A joint committee of the senate and house of representatives of the State of Louisiana has investigated the affairs of the New Orleans Water Works Company, and after such investigation the General Assembly referred the matter to the attorney general to bring suit to forfeit the charter of the said water works company, or to take such action as he thought proper.

Petitioner avers that in 1877 the General Assembly of Louisiana to enable the city of New Orleans to promote the public health, and to afford greater security against fire, and to improve and extend the water works of New Orleans, and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water, passed act 33 of extra session of 1877, approved by the governor, 31st March, 1877, which was amended by act 43 of 1878, approved February 26th, 1878, and both of said statutes are made a part of this petition.

Pursuant to said statute, the New Orleans Water Works Company was organized as a corporation domiciled in New Orleans and the water works, its plant, pumps, machinery and pipes, etc., tools, material on hand then belonging to the city of New Orleans, were turned over to the said company. In consideration of the grant of the franchise to be a corporation and the powers and privileges

mentioned in the statute, the said company was obliged in the interest of the public health and welfare to do the things required in the acts of incorporation, which it has failed to do notwithstanding repeated demand, and it has been guilty of repeated and continuous active violation of its obligations and duties to the people, and has thereby forfeited its charter and franchises.

(1.) Its first and chief obligation was to furnish the inhabitants of New Orleans with an adequate supply of pure water for all purposes. Although it has been in operation more than twenty years, it has never, at any time, furnished the inhabitants of New Orleans with *pure water*, but only with an insufficient and very inadequate supply of very muddy water.

(2.) This muddy and very impure water has been and is now, wholly inadequate to extinquish fires, to wash the yards, alleys and streets, and to supply the inhabitants with water for bathing and domestic purposes, and at no time, was the water furnished fit for drinking or cooking.

(3.) It was the duty of the company, six months after its organization, in March, 1878, to proceed to the erection of new works and pipes sufficient in capacity to furnish a full and adequate supply of water and year by year to complete the same, so as to give an adequate supply of water to the people of New Orleans (exclusive of the fifth district).

This it has never done, and has thereby forfeited its exclusive privileges as provided in the 13th section of its charter. Now, after over twenty years, according to its published reports, there are only 121.5 miles of water mains; (petitioner denies that there are so many) while there are 580 miles of improved or built-up streets, with houses needing an adequate supply of pure water, less than 21 per cent. being less than one-fifth the amount necessary for an adequate supply of water. The water said company furnishes is muddy and unfit to be taken into the human stomach, and unfit for steam-engines; and the said company's water is not accessible to more than one-fifth of the houses in New Orleans for extinguishing fires, or washing yards and streets.

2

(4.) Where the mains are laid the supply has been, and is so inadequate that the firemen could not and cannot get water to extinguish the fires, and many millions of dollars of property have been lost or destroyed in consequence of the derelictions of duty on the part of said company in not furnishing an adequate supply of water.

(5.) The said company was, and is prohibited by sec. 15 of its charter from charging for the use of water supplies by it any more than the rates paid to the city of New Orleans in 1877; the legislature meaning thereby, the rates legally fixed and adopted by the city council in 1870, which were the only rates legally in force and legally exacted by the city of New Orleans in 1877; and petitioner avers that the said company has habitually, from 1878 to the present time, illegally exacted and collected greater rates than those legally exacted and collected by the city of New Orleans for same

quantities of water supplied, or same facilities and opportunities for drawing water from its pipes.

(6.) It was, and is, and always has been since the organization of the said New Orleans Water Works Company its duty as a public corporation, affected with a public use and charged with a public duty, to treat all inhabitants alike, and to charge and exact from each inhabitant to whom it furnished water, or who applies for water, the same sum of money for same or similar service, and to impartially enforce and collect its legal rates against all, without fear or favor, and also to charge the large and wealthy consumer proportionately, for the water taken, or services rendered, to the small and poor consumer. In violation of this legal duty, it has never impartially done its duty in that respect, nor has it ever impartially or without favor enforced its own illegal rates, but has constantly and habitually shown favoritism and charged and exacted higher rates from some than from others for similar service, and the same quantity of water, or for the same facilities for using water, and has exacted from the large and wealthy consumer much less in proportion than from the small and poorer consumer, and has thus added to the wealth of the rich, and oppressed and impoverished the poor.

(7.) It was, and is prohibited by its charter, from declaring or paying any dividends except out of the net semi-annual or annual receipts, after payment of all expenses of operation, and the expenses of the gradual extensions (of its mains and pipes, contemplated by its charter, so as to supply an abundant and fully adequate supply of pure water to all the inhabited portions of the city of New Orleans) and after the payment of its interest on its bonded debt. In violation thereof, it has illegally declared and paid dividends, year after year, when it has not extended its pipes and water service as required, and when it had not paid all expenses of operation and of the small and inadequate extension of its mains and pipes which it had made, and the interest on its bonded debt, and it borrowed money on anticipated future revenues to pay dividends, and dividends were declared and paid from other
3 sources than its net profits, and when there were legally no net profits, all in violation of law, and it thereby crippled and disabled itself, so that it was less able to fulfill its important duty to the public in furnishing an adequate and abundant supply of pure water to all parts of the city of New Orleans along and through its 580 miles of built-up streets.

(8.) It has not complied with its contract with the city of New Orleans, dated 3d October, 1884, because it has not maintained a head or pressure of 50 feet from 7 a. m. to 6 p. m., as required by said contract, a copy of which act is annexed and made part of this petition, and in consequence the people along the mains suffered from an inadequate supply, and immense losses from fires resulted, because the firemen could not obtain enough water to extinguish fire.

(9.) The management has been negligent and needlessly expensive and detrimental to the public zeal, shown by the fact that

although coal, materials, machinery and labor are all cheaper now than in 1878, yet the cost of (by reason of its management) *of* pumping 1,000,000 gallons of water today, 1898, is greater than it was in 1877, and thereby it has crippled itself and rendered itself less able to fulfill its first and great duty to the public, and for which it was created, to wit: to furnish all the inhabitants of the city an abundant and adequate supply of pure water through and along all its 580 miles of built-up streets.

(10.) The New Orleans Water Works Company has accepted the benefits of act 56, of 1884 of the General Assembly amending its charter by act passed before Jos. D. Taylor, notary, 3d October, 1884, and by receiving from the city of New Orleans ever since, money for water for public buildings, washing streets and extinguishing fires, and therefore the New Orleans Water Works Company held its charter subject to the provisions of the constitution of 1879 (see art. 234), and thereby its monopoly and exclusive privileges became extinct, abandoned, renounced and abolished (constitution 1879, articles 46, 248 and *258*). Thereby article 258 of the constitution of 1870 becomes operative and applicable to the New Orleans Water Works Company, and its monopoly and exclusive privilege became abolished and extinct.

(11.) It, in 1878 or 1879, illegally sold or issued its own stock of the par value of $100.00 at $33.00 per share, where it had no power to issue it at less than $100.00 per share.

(12.) By section 9 of its charter the defendant company was forbidden to issue any bonds or mortgages without the consent of the council of the city of New Orleans, and then only for the purpose of improving and enlarging its works and increasing its supply of pure water, and the said New Orleans Water Works Company has illegally evaded said prohibition and has done indirectly what it was prohibited from doing directly by issuing demand notes, reaching $110,000.00, in amount either for the purpose of illegally paying dividends which it had never earned or of paying for its inadequate extensions, instead of issuing its mortgage bonds for enough to complete a distribution of its mains through the built-up portion of the streets.

Wherefore, petitioner *prays* that the New Orleans Water Works Company, through R. E. Craig, its president, be cited, and that its charter and all its franchises be forfeited and it be enjoined from tearing up the public streets and from pursuing its business, reserving the right to apply for the appointment of a liquidator to liquidate the affairs; and, in the alternative, should this relief not be granted, that then it be decreed that the New Orleans Water
4 Works Company has forfeited all exclusive privileges, and the city of New Orleans has the right to contract with any one else for a supply of water and to expropriate its tangible property if its sees fit, and the city of New Orleans be decreed to be free of all of the franchises and privileges of the New Orleans Water Works Company, and it be decreed that having accepted and received the benefits of act 56 of 1884, its monopoly and exclusive privileges and franchises became thereby extinct, abandoned and

abolished by operation of articles 234, 238 and 258 of the constitution of 1879, and to no longer exist, and that the city of New Orleans is free to contract with any person or corporation to furnish the inhabitants with an abundant supply of pure water fit for all purposes, and without let or hindrance from the New Orleans Water Works Company, and for costs and for general relief.

(Signed) J. M. CUNNINGHAM,
Attorney General.

(Signed) BENJAMIN RICE FORMAN,
Of Counsel.

A true copy:
P. J. TOURNILLON,
Deputy Clerk.

5 *Contract of City of New Orleans with New Orleans Water Works Company (Copy of), An Ordinance Authorizing Same, Annexed to and Made Part of Petition.*

Filed January 23, 1899.

UNITED STATES OF AMERICA,
State of Louisiana, Parish of Orleans,
City of New Orleans.

Be it known, that on this third day of the month of October, in the year of our Lord, one thousand, eight hundred and eighty-four, and of the Independence of the United States of America, the one hundred and ninth.

Before me, Joseph Dewey Taylor, a notary public in and for the parish of Orleans, State of Louisiana, duly commissioned and qualified, and official notary of the city of New Orleans, and in the presence of the witnesses hereinafter named and undersigned.

Personally came and appeared the Honorable Joseph Valsin Guillotte, mayor of the city of New Orleans, herein acting in his official capacity as mayor aforesaid, being herein and hereunto specially authorized and empowered by ordinance number 909, council series, adopted by the council of the city of New Orleans on the 23rd day of September, A. D. 1884, a duly certified copy of which ordinance is hereto annexed and made part hereof.

Also came and appeared Mr. Albert Baldwin, president of and herein representing the New Orleans Water Works Company,
6 being herein and hereunto specially authorized and empowered by a resolution of the board of directors of said water works company, passed at a meeting of said board held in the city of New Orleans on the 27th day of September, A. D. 1884, a certified copy of which resolution is hereto annexed and made part hereof.

Whereupon, said Albert Baldwin, in his said capacity as president, declared and does hereby declare that he accepts all and singular the terms, conditions, provisions, obligations, rights, ben-

efits and advantages set forth and contained in said ordinance No. 909, adopted by the council of the city of New Orleans, on the 23rd day of September, A. D. 1884, and approved by mayor on the 26th day of September, A. D. 1884, thereupon duly promulgated, and which said ordinance, so accepted by said Baldwin, president, — in the words and figures following to wit:

An ordinance to carry out act No. 56 of the acts of 1884, providing for a future water supply from the New Orleans Water Works Company, to and for the city of New Orleans and certain institutions, and regulating the use of water and the payment therefor.

Whereas, the city of New Orleans has been, and is, and will be, unable to allow the New Orleans Water Works Company the fifty years' exemption from taxation, being the consideration for a free supply of water, contemplated by section 11 of act No. 33, of the acts of 1877; and the courts having decided that the exemption from municipal taxation granted in said act, is not, and shall not be enjoyed, and therefore, as is also decided, that the city must pay for the water supplied by said company; and

7 Whereas, it is best to arrange for a fixed annual price for said water supply, rather then leave the city liable to an annual demand, the amount of which cannot be known in advance, and from which the city cannot be relieved, but is specially authorized and required to provide for the payment therefor; and

Whereas, the said New Orleans Water Works Company is willing to accept terms, arranging for a sum to be determined in advance of each year, and which amount can be readily and equitably fixed, according to a mode adopted in other cities, by reference to the number of fire-hydrants, fire-plugs or fire-wells, now numbering eleven hundred and thirty-nine (1139) in this city; therefore,

SECTION 1. Be it ordained by the city council of the city of New Orleans, That during the term of the charter of the New Orleans Water Works Company, beginning with the year 1885, the supply of water for which this ordinance provides, shall be furnished by the said company, from the pipes and plugs of said company, now laid or hereafter to be laid, for the following purposes, to wit: For the extinguishment of fires and the cleansing of the gutters; for the use of all existing public buildings, public markets, public squares and places, public schools and the public charitable institutions supported and to be established and supported by the State or city, and now supplied by the said company; it shall be the duty of the said company to keep and maintain a head or pressure of water of not less than fifty feet head, between these hours of seven a. m. and six p. m.; and the reservoir supply at night and between the — hours shall be of such abundance as amply to cover the needs of the fire department for extinguishing fires; and said company shall make such provisions as may be

8 necessary to reinforce or supplement said reservoir supply in case of need or accident. In consideration for said supply, the city of New Orleans shall pay, during the term of said com-

pany's charter to the said New Orleans Water Works Company sixty ($60) dollars per annum for each and every fire-plug, fire-hydrant and fire-well connected with the mains or pipes of said company, of which said fire-plugs, fire-hydrants and fire-wells there are now eleven hundred and thirty-nine (1139), which number shall be the least number of the annual sum to be paid to said company, and for every additional hydrant, fire-plug or fire-well exceeding said number, hereafter attached to said pipes or mains, the city shall pay an additional sixty ($60) dollars per annum.

SEC. 2. Be it further ordained, etc., That the city of New Orleans shall have the power in time of drouth to furnish water to such persons as may live outside the lines (of) the pipes of said water works company free from all charges by the same, and shall have further power by ordinance duly passed and notified in writing to said company, before each annual appropriation for said supply, to decrease or increase the number of fire-plugs, fire-hydrants and fire-wells for the ensuing year, all such ordinances to designate the locations for the new attachments or intended cut-offs; provided, however, that the number of said fire-hydrants, fire-plugs, and fire-wells be not reduced below eleven hundred and thirty-nine (1139), the intent thereof being that the annual price to be paid for said water supply shall never be less than as fixed herein, by reference to the now existing number of said fire-plugs, fire-hydrants and fire-wells; but the city expressly reserves the power to change the location of any and all of said fire plugs, hydrants or wells whenever the council shall deem it necessary, said changes to be at the cost of the com-
9 pany.

SEC. 3. Be it further ordained, etc., That the city of New Orleans shall annually set apart, appropriate and provide in its annual budgets of expenditures and receipts, beginning with those for the year 1885, and in all successive budgets for each year successively, a sum sufficient to pay for said annual water supply, as fixed in the foregoing sections of this ordinance; and that said annual sum or price shall be paid to said New Orleans Water Works Company, in twelve equal and monthly installments, one on the last day of each consecutive month, begining in the month of January, 1885, for the year 1885; and beginning also in the month of January in each year thereafter, and in event of prompt cash payments of said installments during each year, the city of New Orleans shall be entitled to deduct and retain from the last installment in each year six per centum of the entire amount paid and payable to the said company in and for said year; but should any installments be unpaid when due, it shall bear interest at the rate of eight per centum per annum, from the end of the month in which it was payable, until finally paid.

SEC. 4. Be it further ordained, etc., That it is hereby made the duty of the comptroller or auditing officer, and of the treasurer of said city of New Orleans, carefully to set apart and keep, as a distinct fund, the moneys or collections which shall have been appropriated in each year, pursuant to this ordinance, and such proportion of all collections of the revenue as shall have been appropriated in the

budgets to and for said company, or the said water supply for each year shall be carefully and exactly set apart by said officers, as collected, and shall be warranted for by said comptroller and paid by said treasurer to said company, during each month, without further direction, ordinance or authority than that hereby given.

SEC. 5. Be it further ordained, etc., That the New Orleans Water Works Company shall have the right to inspect and to examine into the use of water to be supplied under this ordinance, and the city of New Orleans and its officers shall see that no water is taken or used except for the purpose aforesaid, and that there shall be no waste nor more water taken and used, than may be actually necessary for the purposes aforesaid; and to this end the city of New Orleans shall adopt all proper measures or ordinances to prevent waste and to prevent any use of water except for the purposes herein designated; and it is hereby made the duty of the officers of said city, and of those of any and all public buildings, and public institutions, and of all persons using water under this ordinance, to prevent waste and to prevent the use of such water except for the actual need for the purposes aforesaid.

SEC. 6. Be it further ordained, etc., That the mayor be and is hereby authorized and directed to execute a contract by notarial act, to and with said company, embodying and carrying out the provisions of this ordinance.

SEC. 7. Be it further ordained, etc., That all ordinances or parts of ordinances, inconsistent or in conflict with this ordinance, be and the same are hereby repealed.

Adopted by the council of the city of New Orleans, September 23rd, 1884.

M. McNAMARA,
Clerk of Council.

Approved September 26th, 1884.

J. V. GUILLOTTE, *Mayor.*

A true copy:
TH. BUISSON,
Secretary to the Mayor.

And said Joseph Valsin Guillotte, mayor, and said Albert Baldwin, president, having each read and declared himself fully cognizant of the contents of said ordinance, do severally declare that they do hereby contract, engage and agree, one with the other, according to the terms, provisions, conditions and language of said ordinance, all and singular of which said terms, conditions, provisions and language shall be and is hereby made a contract engagement and agreement between said parties, the city of New Orleans and the New Orleans Water Works Company; to be observed and carried out and held and maintained inviolate during the entire term and existence of the said New Orleans Water Works Company, its assigns or successors as now fixed in the charter of said company, being a period of fifty years from the incorporation of said company.

The said Albert Baldwin, as president aforesaid, engages to furnish and supply water from the pipes of said company in the manner, at the times, and for all purposes and objects as set forth in and pursuant to the provisions and requirements of the said ordinance No. 909, council series, to furnish or supply water to and for the public places, buildings and institutions, as in and by said ordinance required; to allow the city of New Orleans in time of drouth, said state or condition of drouth to be decided by the board of this company and the city council, to furnish water to such per-
12 sons as may live outside the lines of the pipes of the said company for the needs of said persons, without waste and by such means of transportation by carts, wagons, barrels or like appliances as said city may provide and furnish, all pursuant to the intent and purpose of sections second and fifth of said ordinance; to observe and obey any ordinance duly notified to said company directing the increase of the number of fire-plugs, fire-hydrants and fire-wells or the decrease thereof, provided said decrease be and not below eleven hundred and thirty-nine (1139) in number, all according to section third of said ordinance; and further he engages and contracts, as president aforesaid, to do, perform and give and to observe, carry out and fulfill all things required of said company by or in said ordinance.

In consideration whereof, said Joseph Valsin Guillotte, mayor, aforesaid, engages and contracts to pay unto said company, annually, the sum of sixty ($60) dollars for each and every fire-plug, fire-hydrant and fire-well connected with the mains or pipes of said company, of which there are now eleven hundred and thirty-nine (1139), and which number shall ever be the least measure of the annual sum to be paid said company; to pay said company annually, sixty ($60) dollars for every additional hydrant, fire-well or fire-plug exceeding said number of eleven hundred and thirty-nine (1139), and hereafter attached to said mains or pipes; to notify said company in writing of all decrease or increase required, of said fire hydrants or wells; to make promptly, fully and specially, the annual appropriations and monthly payments as required by and in section three of said ordinance, the city to deduct or retain from the last monthly payment in each year six
13 per centum of each annual sum paid and to be paid said company as provided in said section three; to hold and to set apart and keep as a distinct fund, the moneys or collections as required by said ordinance, and upon request or demand of said company on the last day of each month in any year, the comptroller of the city shall warrant on the treasurer for, and the treasurer shall pay from said moneys or collections, the installments which at that time shall be due, without other authority or ordinance than said ordinance; and the comptroller or auditing officer and the treasurer of the city shall faithfully carry out and promptly obey all the requirements and provisions of the fourth section of said ordinance, and shall raise no obstacle or impose any delay in obeying the same; and it shall be the duty of each, in his respective department, to keep all money and collections appropriated under

said ordinance and this contract, as separate from all other moneys, and as a distinct fund; all pursuant to and in accorsance with said section four.

The said company shall have the right to inspect and to examine into and concerning the use of water supplied by it, and none of said water shall be wasted or used otherwise than for the purposes named in said ordinance and to the extent of the actual need for said purposes, all as provided in section five of said ordinance: and to this end the officers and persons designated in said section five and the city of New Orleans shall do, perform and abstain from doing the things set forth in said section five of said ordinance.

Further, it is agreed, understood and stated by and between the said parties, that the specification or detailing in this instru-
14 ment of the several rights, duties, obligations and things to be done, performed, observed, carried out or abstained from respectively, does not and shall not limit, modify or in any manner take from the effect of any of the terms, conditions, provisions or expressions of said ordinance, all of which are, by these presents, accepted and made binding, effective and operative upon and between the said New Orleans Water Works Company and the city of New Orleans, their assigns or successors, for and during the term named in the charter of said company.

Thus done and passed in my office in the city of New Orleans, aforesaid, the day, month and year aforesaid, in the presence of Charles G. Rebentisch and George R. Goetz, witnesses of lawful age, residing in this parish, who have signed their names with said parties and me, notary, after due reading of the whole.

(Original signed) J. V. GUILLOTTE, *Mayor.*
ALBERT BALDWIN,
President of the New Orleans Water Works Company.
C. G. REBENDITSCH.
GEO. B. GOETZ.
J. D. TAYLOR,
Notary Public.

A true copy of the original.
New Orleans, October 14th, 1884.
J. D. TAYLOR,
Notary Public.

15 *Resolution of the City Council Requesting the Attorney General of the State of Louisiana to Bring Suit (a True Copy), Annexed to and Made Part of Plaintiff's Petition.*

Motion by Mr. Dreyfous. Whereas, the evidence adduced in the recent investigation of the New Orleans Water Works Company by the joint committee of the legislature, and the report of that committee, shows that said company has violated in many essential requirements the obligations of its charter; and

Whereas, such violations have caused, and are daily causing great injury to this community, and are a menace to the health and comfort of the inhabitants of New Orleans;

Be it moved, etc., That the honorable, the attorney general of the State of Louisiana be and he is hereby requested to institute proceedings before the proper tribunal, having for their objection the annulment of the charter granted to the New Orleans Water Works Company by the State of Louisiana.

Unanimously adopted.

CLERK'S OFFICE, CITY HALL,
NEW ORLEANS, *December* 31*st*, 1898.

I certify the above to be a correct copy of a motion adopted by the council of the city of New Orleans on July 12th, 1898.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

16 *Exception of New Orleans Water Works Company.*

Filed February 6th, 1899.

Civil District Court, Division E.

STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Exception.

And now comes the said defendant, The New Orleans WaterWorks Company, by its undersigned attorneys, and in nowise admitting the truth of any allegation in the said plaintiff's petition contained, except- to the plaintiff's petition herein, and for exception saith:

That the said petition does not contain "a clear and concise statement of the object of the demand as well as of the nature of the title or the cause of action on which it is founded" as required by the code of practice, sufficient in law or justice to require this defendant to plead thereunto or take issue of fact thereon in form as the same is pleaded and of record of this cause for the following reasons and particulars amongst others, to wit:

First. That the general averment contained therein immediately preceding the subdivision of said petition into alleged causes of forfeiture marked and designated as "first," in which general averment it is charged and stated that the defendant "has been guilty of repeated and continuous active violation of its obligations and duties to the public and has thereby forfeited its charter and franchises," or words to that effect, is in all things too vague, uncertain, unfair, and insufficient in law to require this defendant to take issue of fact thereon as an alleged ground or cause of forfeiture and does not advise this defendant of any particular act or acts, or of their character, particulars or dates as required by law, nor is it sufficient in certainty, statement or designation to advise or inform this defendant of the issue sought to be made or of the evidence of proofs required to defend against the said loose general and unlawful averment and that this defendant ought not in law to be required

to take issue of fact thereon as an alleged cause of forfeiture or answer the same in manner and form as set forth in said petition.

Second. That the subdivision of said petition into alleged causes of forfeiture marked and numbered "fourth," wherein it is averred in words, substance and effect that "*where the mains are laid the supply has been and is so inadequate that the firemen could not and they cannot get water to extinguish the fires, and many millions of dollars of property have been lost or destroyed in consequence of the dereliction of duty on the part of said company in not furnishing an adequate supply of water,*" and that portion of the eighth subdivision or alleged cause of forfeiture, set forth in said petition, in which it is stated in words or substance, that, "*the people along the mains suffered from an inadequate supply and immense losses resulted from fires because the firemen could not obtain water enough to extinguish fires,*" are as averments of alleged grounds of forfeiture too vague and uncertain to require this defendant to take issue of fact thereon as pleaded, not only for the reasons above stated in reference to the part of said petition
17 last above objected and excepted to, but because the said averments do not aver and charge any description or designation of character, ownership, or location of any of the property alleged to have been lost or destroyed, nor the dates of such pretended loss or destruction, nor the particular dates or character of the alleged derelictions being the alleged cause of such averred destruction. That the petition charges the defendant with having had corporate existence of more than twenty years, thus rendering the averments in the petition more vague and uncertain and furnishing the defendants with no information as to what alleged act or acts are or will be relied on by the plaintiff to support said alleged ground of forfeiture or by what proof or evidence these general vague allegations can be met and overthrown.

Third. That the same objection and cause of exception exists and is made as to and concerning the alleged cause of forfeiture in subdivision in said petition numbered "fifth" contained, for that said subdivision fifth does not set forth or state when, by what means, and upon what authority, and at what date the city of New Orleans had or has established water rates to be paid by consumers of water from the mains and pipes of the water works company, nor the rate and alleged charges that were established as averred, nor the persons or corporations that are alleged to have been overcharged, nor does it designate the premises supplied with water or the dates when supplied and overcharged, nor the rate of alleged overcharge, nor the excess of said overcharges over the alleged legal charges that it is averred should have been made and received, nor the name of the persons or corporations alleged to have been overcharged.

Fourth. The same cause of objection and exception exists and is made as to and concerning the subdivision of alleged causes of forfeiture in said petition numbered "sixth," for that it is in said subdivision stated and charged by broad, general averment covering more than twenty years of the life of this defendant, that this defendant has failed "*to impartially enforce and collect its legal rates against all without fear or favor, and also to charge the large and wealthy*

consumers proportionately for the water taken or services rendered to the small and poor consumers. In violation of this legal duty, it has never impartially done its duty in that respect, nor has it ever impartially or without favor enforced its own legal rates but has constantly and habitually shown favoritism and charged and exacted higher rates from some than from others for similar service and the same quantity of water, or the same facilities for using water and has exacted from the large and wealthy consumers much less in proportion than the small and poorer consumer and has thus added to the wealth of the rich and oppressed and impoverished the poor." Defendant avers that this allegation as an alleged cause of forfeiture is too vague, uncertain, insufficient and unfair to require this defendant to make answer thereunto in form as pleaded for the reasons among others that it covers a period of more than twenty years, does not give the names of those who are alleged to have been discriminated against; the names of those alleged to have been preferred, nor the date of such alleged act, nor the names of those who have been made poorer and by what act and to what extent they have been so affected, nor at what dates, nor where they resided, nor any alleged specific act of the defendant by which said result was produced; that the same vagueness and indefiniteness of allegation exists as to those alleged to have
18 been made richer and that said subdivision "six" as an alleged cause of forfeiture is for the above and other reasons insufficient in law to compel this defendant to take issues of fact thereon as an alleged ground of forfeiture.

Wherefore, this defendant, for the reasons and upon the grounds above set forth, excepts to said petition as too vague, indefinite and uncertain and too much at variance with the requirements of the code of practice to require this defendant to make any defense thereto or take issue of fact thereon and prays that this exception may be sustained by the court and this defendant exempted from making answer to said petition until the same shall have been made certain as to all portions thereof and all alleged grounds of forfeiture therein stated which are herein excepted to, and until the said petition, either by amendment or bill of particulars shall have been so framed as to comply with the requirements of the code of practice in such cases made and provided and that the plaintiff pay all cost of this exception; and upon failure of plaintiff to amend its petition so as to conform to the prayer of this exception and to the order of the court, that its suit be dismissed at its cost, and defendant prays for all further and general relief.

And for further exception herein the defendant excepts to all that portion of the prayer in said petition contained and set forth, which is substantially in the words and figures following, to wit: "And in the alternative that this relief should not be granted, then, that it be decreed that the New Orleans Water Works Company has forfeited all exclusive privileges, and the city of New Orleans has the right to contract with any one else for a supply of water, and to expropriate its tangible property if it sees fit, and the city of New Orleans be decreed to be free of all the franchises and privileges of the New Orleans Water Works Company; that it be decreed that hav-

ing accepted and received the benefits of act 56 of 1884, its monopoly and exclusive privileges and franchises became thereby extinct, abandoned and abolished in 1879, and no longer exist, and that the city of New Orleans is free to contract with any person or corporation to furnish its inhabitants with an abundant supply of pure water, fit for all purposes, and without let or hindrance from the New Orleans Water Works Company."

For that the said portion of the prayer of the said petition is a prayer for affirmative relief by judgment in favor of, and for the benefit of the city of New Orleans, relating to matters in which the State of Louisiana has no legal interest or right to stand in judgment for the city of New Orleans, and that cannot be lawfully litigated in an action to which the city of New Orleans is not a party asking for such judgment and relief in its own behalf.

Wherefore, this defendant prays that this exception be maintained, and the said plaintiff, The State of Louisiana, be directed and decreed to eliminate and abandon so much of the prayer of said petition as is herein excepted to at plaintiff's cost; and defendant prays for all further and general relief.

Respectfully,

J. R. BECKWITH,
FARRAR, JONAS & KRUTTSCHNITT,
E. HOWARD McCALEB,
Attorneys for Defendant.

19 *Submitted.*

Extract from Minutes of Division "E."

FRIDAY, *February 24th*, 1899.

Present: The Honorable George H. Theard, judge.

This matter came on this day to be tried, on the exceptions herein filed by the defendant.

Present: M. J. Cunningham, Esq., & B. R. Forman, Esq., for plaintiff. E. B. Kruttschnitt, Esq., for defendant & exceptor.

And the said exceptions having been argued and submitted the court took the same under advisement.

Exception Overruled.

Extract *of* Minutes of Division "E."

TUESDAY, *March 21st*, 1899.

Present: The Honorable George H. Theard, judge.

For the reasons this day orally assigned by the court:

It is ordered that the exceptions herein filed by defendant on February 6th 1899 be overruled, and that said defendant be allowed a delay of five days to answer.

Answer of New Orleans Water Works Company.

Filed March 23, 1899.

Civil District Court for the Parish of Orleans, Division E.

THE STATE OF LOUISIANA
versus
NEW ORLEANS WATER WORKS COMPANY. } No. 63345.

Answer.

And now comes the said defendant, The New Orleans Water Works Company, by its undersigned attorneys, and saving and reserving to itself the benefit of all exceptions heretofore pleaded herein and in no manner waiving the same, for answer to said plaintiff's petition herein, as the same now stands of record herein, saith that it is true that this defendant is a duly created and existing corporation, and that it was created and exists by the force, effect and virtue of acts of the legislature of the State of Louisiana, No. 33, of the acts of the extra session thereof held in 1877, as amended by act No. 43 of the acts of the legislature adopted in 1878, referred to in plaintiff's petition, but that it is not true that the character, object, purpose and intent of said legislation is truly set forth and stated in said petition. That the truth is, that the prime, main and principal object, purpose and intent of said legislation was not to provide the city of New Orleans with water works, or an installation and works for pumping and providing that city with a public water supply, because, for a period of more than forty years prior to the date of said legislation the city of New Orleans had water works for the public supply of water for municipal and other purposes, an installation that had been accepted, taken and considered in all things complete and adequate therefor, by both the State and city authorities, as will be hereinafter more fully set forth in its history and particulars. Nor is it true that it was the prime and principal object, motive or intent of the legislature in the adoption of said legislation to provide for the enlargement, improvement or expansion of said then existing water works, at that time owned and operated by the city as full owner thereof, having and possessing full power and authority to enlarge, expand and improve the same, and supply and provide against any inadequacy thereof without the necessity of any enabling action by the State.

That by virtue and authority of the provisions of an act of the legislature, approved April 1st, 1833, the late Commercial Bank of New Orleans was incorporated with authority, and charged with the duty of providing, a water works plant and system for the
21 city of New Orleans, and immediately complied with that grant and duty by constructing water works and operating the same. That by the terms of said act of April 1st, 1833, the city was permitted to subscribe to the capital stock of said Commercial

Bank of New Orleans to the extent of five thousand shares and to pay its subscription in the bonds of the city of New Orleans, bearing five per cent. interest per annum, redeemable in forty years. The city did subscribe for and take five thousand shares of said stock and in payment therefor made and delivered to the said Commercial bank its bonds for the full amount of five hundred thousand dollars, said bonds bearing interest at the rate of five per cent. per annum, redeemable in forty years from the date thereof.

That by the terms and conditions of said act of 1833, the city by virtue of its ownership of said five thousand shares of stock, became entitled to appoint two members of the board of directors of said bank, and it was also further enacted therein that, if at the expiration of thirty-five years the city desired to purchase said water works, the bank was compelled to sell the same to the city for a price to be ascertained by an arbitration provided for in said act. The price to be paid by the city in its municipal bonds, bearing interest at the rate of five per cent. per annum, redeemable in not less than ten nor more than thirty years. That at the expiration of said period of thirty-five years the city elected to purchase the water works, arbitration was had and the value and price of the property fixed at two million dollars.

The city at that time being a shareholder in the capital stock of the Commercial bank to the extent of five hundred thousand dollars, as above set forth, credit to that amount was allowed the city on the price of said property as established by arbitration. The city being also as a shareholder interested in the cash assets of said Commercial bank, constituting the sinking fund held by the Commercial bank, as provided for in the twenty-third section of said act of 1833, amounting to the total sum of one hundred and six thousand and six hundred dollars, as the city's share thereof, making, together with said five hundred thousand dollars, on account of stock held by the city, the sum of six hundred and six thousand and six hundred dollars for which the city was entitled to credit on the price of said water works as so fixed by arbitration, leaving the balance to be paid by the city to said Commercial bank, one million, three hundred and ninety-three thousand and four hundred dollars, to be paid in city bonds authorized by said act of 1833. Said price having been so established and fixed by the parties, the Commercial Bank of New Orleans, by notarial act of sale, passed before Andrew Hero, Jr., a notary public, in and for the parish of Orleans, on the 19th day of January, 1869, sold and transferred all of said property, together with all rights, franchises and monopolies connected therewith, to the city of New Orleans. The city, as the price so due the Commercial bank therefor, making and delivering to the said vendor its municipal bonds bearing five per cent. interest, maturing in thirty years from the date thereof, to the amount of one million, ninety-three thousand and four hundred dollars, as more fully and at large appears by a copy of said notarial act filed with this answer and made part hereof and marked "Answer, Exhibit A," to which this defendant at all times refers for certainty.

That from the date of said purchase, on the 19th of January, 1869,

until the 9th of April, 1878, the city of New Orleans was sole owner of water works in the city, with full power to enlarge and
22 improve the plant if found not adequate to provide the requisite quantity or quality of water to meet the demand of the city or its inhabitants for all purposes; but deeming the water works adequate in all respects, the city did not during its ownership increase or improve the efficiency or capacity thereof, but rather diminished the same, by allowing the plant and works to become lessened in capacity by decay and dilapidation.

That shortly after the purchase of said property by the city of New Orleans, the five hundred thousand dollars in municipal bonds issued to the Commercial Bank, in payment for its stock subscription to five thousand shares of the capital stock of the bank at the time of its organization in 1833, became due and payable, and were by the city allowed to become dishonored by non-payment, only one hundred and eleven thousand five hundred dollars in amount thereof having been redeemed by the city in any form or by any means prior to the 9th day of April, 1878. The remainder of said bonds being outstanding dishonored and unpaid in the hands of *bona fide* holders. At the same time the current obligations of the city matured and constituting its floating debt, amounting to several million dollars, were also outstanding in the hands of its creditors unpaid, the holders thereof clamoring for pay in vain, the city being without revenue or resources adequate to meet and pay the same or its current expenditures involved in the administration of municipal government.

The financial condition of the city being in the condition above set forth, the State legislature attempted to rescue the city in part from this condition of practical bankruptcy by various devices, one being the premium bond device and scheme, another was to sell or exchange the city asset, consisting of its public water works for money or in exchange for the matured obligations of the city to some purchaser who would take the property with such added franchises and rights as would apparently make the property valuable in the hands of such purchaser.

To accomplish this end the State legislature, in order to obtain a possible purchaser, was compelled to provide for the creation of a corporation to effect sufficient aggregation of capital necessary to purchase the water works at the price for which the State offered the same for sale, to wit, two million dollars, and at its extra session in 1877 adopted said act No. 33 of the acts of that session, referred to in the petition herein, and tendered said water-works property and rights for sale under the terms and conditions of that act; but the terms of said act were so burdensome, the *ex officio* power of direction vested in the representatives of the city on the board of directors by said act was so great, when added to the city's voting capacity on the stock that it might hold, and the other obligations, features and conditions of the act were so onerous that no persons could be found willing to avail themselves of the act and create the corporation provided for therein. The State having become satisfied that none would avail themselves of said act No. 33, adopted at the

next session of the legislature the amendatory act No. 43, of the acts of 1878, and again offered the said property for sale, together with the rights, privileges, franchises and exemptions conferred in said legislation as amended. This defendant at all times refers to the said acts of the legislature for certainty and makes the same a part of this answer.

When said act No. 33, of extra session of 1877, had been amended, as aforesaid, by the act of 1878, persons sufficient in number and amount, of the holders of the city's obligations described in said legislation, were found, who were willing to avail themselves of the offer so made in said legislation, and organize the corporation
23 provided for to purchase the property and rights so offered for sale by the State; and having subscribed stock to the extent of five hundred thousand dollars, and having also surrendered to the city of New Orleans, city obligations of the character named in said legislation to the amount of five hundred thousand dollars, par value thereof, to be cancelled and held by the city, as provided in said act No. 33, extra session 1877, and, after the notice required by said act, met together prior to the 9th day of April, 1878, and in due form organized the corporation provided for and in all things became a corporation as The New Orleans Water Works Company, defendant herein, and immediately, as required by said legislation, made and issued in due form and delivered to the city of New Orleans full certificates of ownership of the entire twenty thousand shares of stock constituting the entire capital stock of the defendant corporation, conferring the same upon the city of New Orleans in full and complete ownership thereof, not subject to any assessment or demand of the corporation thereon.

The defendant never received into its treasury one dollar from the amount of its capital stock, the city owning and holding every share thereof, as the stipulated purchase price of its entire water works plant and property, including franchises and rights granted by the State and sold with the balance of the property, rights and franchises so offered for sale by the State, amongst which property so sold to, and purchased by, this defendant for a valuable consideration, was the valuable and indispensable franchise to be a corporation, a right and property not severable in law from the balance of other property included in said sale to this defendant.

That on the 9th day of April, 1878, that there might be authentic evidence of said purchase and sale, the city of New Orleans, as directed in said legislation, by a notarial act passed before Gustave Le Gardeur, Jr., at that time a notary public, in and for the parish of Orleans, in due form, sold and transferred to this defendant all of said property, rights, servitudes, privileges and franchises connected with said water works and owned by the city in connection therewith, acquired from said Commercial Bank of New Orleans, or from any other source, as well as all the rights, franchises, exclusive privileges and immunities created and named in said act No. 33, of the acts of extra session of 1877, and act 43, of the acts of 1878, as well as all of the rights, monopolies and franchises granted to the Commercial bank under and by the provisions of the said act, ap-

proved April 1st, 1833, incorporating the said Commercial Bank of New Orleans, that had been assigned and come to the city under the terms of its purchase of the water works from the Commercial bank and by the terms and covenants contained in said notarial act of transfer of the 19th of January, 1869, so passed before Andrew Hero, Jr., notary, hereinbefore made part of this answer marked "Answer, Exhibit A," as will more fully and at large appear by the attested copy of said act of sale, before said notary public, Gustave Le Gardeur, Jr., made a part hereof, marked "Answer, Exhibit B," to which this defendant at all times refers for certainty.

That there is no holder of a share of the capital stock of the defendant corporation except the city of New Orleans itself that does not hold his shares of said stock by title traceable through mesne assignment to the city of New Orleans, the original holder and owner of the entire twenty thousand shares of stock authorized by act No. 33, of extra session, 1877, and that no other shares were ever issued or have ever been in existence.

24 The city of New Orleans has sold or exchangd in extinguishment of city obligations all of said twenty thousand shares of stock, excepting thirty-nine hundred and twenty-seven shares thereof, that are as yet not disposed of by sale or exchange for city indebtedness. The last-mentioned shares were held in the name of the city itself as owner until, in compliance with a judgment of the civil district court for the parish of Orleans, affirmed by the judgment of the supreme court of the State, the said shares of stock so standing in the name of the city, were transferred to the board of liquidation of the city debt, and have since said transfer been held by that board for the city as an asset of the city for the extinguishment of its debts, subject to the trust imposed thereon by said act No. 33, extra session, 1877, and all earnings and dividends thereon have since been paid to the city through said board of liquidation.

And further answering, defendant saith, that by the terms of said legislation the State of Louisiana, being well aware that the entire capital stock of the New Orleans Water Works Company was to be given to the city of New Orleans, as provided in said act 33, extra session, 1877, and from which this defendant would not receive a dollar in funds in its treasury to enable the corporation to carry out the obligations imposed upon it, and in order that the funds might be obtained to accomplish that purpose in section 9 of the said act, conferred power on defendant to borrow money for the purposes therein stated, and with the consent of the city council secure the payment of bonds issued for that purpose by a mortgage of all the property and franchises of the company, including its "*franchise to be a corporation*," specially therein named, as subject to hypothecation, providing the manner in which such mortgage shall be recorded and declaring that such mortgage shall be and continue a valid and subsisting mortgage until the payment of the debt so secured without re-recordation.

That this defendant has twice availed itself of this right and power to issue its bonds, secured by mortgage of said property,

franchises and rights, after having, in due form, first obtained the permission of the council of the city of New Orleans so to do.

That on or about the 1st day of April, 1879, defendant, by an act before James Fahey, then a notary public, in and for the parish of Orleans, in due form of law made and executed an act of mortgage to secure its bonds to the amount of five hundred thousand dollars, issued in accordance with the provisions of said act No. 33, extra session, 1877, for the purposes therein stated. That of the bonds so secured, bonds to the amount of three hundred and ninety-five thousand dollars have been issued and the money therefor received by defendant, all of which, except as to matured interest coupons, are not yet due and payable and are held and owned by third persons, *bona fide* holders, and are in form transferable by delivery, and that amongst the other property so mortgaged to secure the payment of said bonds, the "*franchise to be a corporation*" is specially designated, described and hypothecated as security for the payment of said bonds.

That afterwards, by another act of mortgage, in due form, passed before C. T. Soniat, a notary public, in and for the parish of Orleans, on or about the 22d day of December, 1892, this defendant, with like consent of the city council, and for like purposes, provided for in said act No. 33, extra session, 1877, made and executed another, a junior mortgage, to secure a loan of two hundred and fifty thousand dollars, represented by bonds of the defendant, due in twenty-five years transferable by delivery, and except as to matured interest coupons are all as yet unmatured and in the hands of third holders in good faith, all having been issued and the money therefor received by defendant. That this mortgage is a second and junior mortgage, mortgaging and hypothecating all of the property of defendant, including the "*franchise to be a corporation*," that being therein specially named and mortgaged as authorized by said act No. 33 to secure the payment of said bonds and interest.

That both of said mortgages are duly recorded in the proper office of record of such mortgages and all the world has notice thereof, whereby the holders of both said series of bonds under said mortgages have property and right in said grant, so made by the State of said "franchise to be a corporation" by this defendant so hypothecated to them in good faith, and they cannot lawfully be divested thereof, or their property therein injured or impaired in value in this action, or in any suit or action in court to which the said holders are not parties thereto, and given their day in court, and this defendant so pleads herein as one defense against plaintiff's action and demand, and that said holders of said bonds are indispensable parties to this action; which by the prayer therein seeks to destroy said franchise to be a corporation so granted to and owned by this defendant and so hypothecated, and that said plaintiff is acting in bad faith and contrary to the constitution of the State of Louisiana and the Constitution of the United States in so assailing said franchise to be a corporation in manner and form as the same is assailed in this action, particularly the fourteenth amendment of

the Constitution of the United States, prohibiting any State from depriving any person of life, liberty or property without due process of law, or from denying any person within its jurisdiction equal protection of its laws, and this defendant so pleads said constitutional guarantees herein as a right conferred by said Constitution of the United States.

And further answering, defendant saith that it has heretofore in this answer set forth and shown to the court in detail the history, acts and matters connected with the creation and existence of the defendant corporation and the motives, intents and purposes of the legislature of the State in authorizing and creating the defendant corporation; that the court may be fully advised thereof, and having so done now pleads and avers and insists to the court that by reason of the premises and of the law, the grant of corporate life to this defendant was not, as is usually the case in grants of corporate life, for the purpose and in consideration only of the establishment of public works or improvements of a public character, that is to say, where the only consideration passing to the State for the grant of corporate life is some supposed increased general public benefit resulting from the construction and installation of public works, as in the case of ferries, bridges, railways, etc., but, on the contrary thereof, in the case of the defendant corporation the contract and agreement between the State and this defendant was and is an unquestionable contract of bargain and sale of all the property, rights and franchises named in act No. 33, extra session of 1877, as amended by said act No. 43, of 1878, for an exact price fixed by the State in its offer of the said property for sale and accepted and paid by this defendant in a bargaining in which the State was not acting alone in its character of sovereign, but as a merchant and trader in commerce, and that in the bargaining and sale of said property and franchises the State must in law and by the courts be considered as a trader engaged in driving a hard commercial bargain in its own interest and on its own terms for its own benefit and profit.

26 That it was not the real motive or intent of the State in thus bargaining to benefit the inhabitants of New Orleans by providing for them a water-works system and plant, for they had for years before that time possessed a public water supply, water works and system. Nor was it the intent of the State in thus bargaining to provide authority to enlarge and improve the then existing water works of New Orleans, for the city, the then owner thereof, had full power to extend, enlarge and improve its water works at will without resort to the legislature for authority. If the complaint was that the city possessed insufficient funds for that purpose, a simple act allowing the city to specially mortgage its water-works property would have provided funds for that purpose, in addition to the money arising from the revenue of the water works or from other revenue sources. That such was not the case is further demonstrated by the enactment contained in the fifth section of said amendatory act No. 43, of 1878, that section being declaratory of the legislative intent in adopting section thirteen of act No. 33, extra session, 1877, which is as follows:

"SEC. 5. Be it further enacted, etc., That the full, complete and adequate supply of water, referred to in section thirteen (13) of said act No. 33, shall be so construed as to require a supply of water at the height of not less than fifteen (15) feet from the ground wherever the pipes of the water works now exist."

This defendant avers that the true and actual legislative intent in said act No. 33, of extra session of 1877, and act No. 43, of 1878, was the legislative purpose to sell the property, real, personal and mixed, and all the added rights and franchises contained in said legislation, including the right and "franchise to be a corporation," created in said legislation, as an inseparable entirety and mass, in order to obtain the means and resources from the purchaser thereof to pay or extinguish two million dollars of the public and floating debt of the city of New Orleans. That the "franchise to be a corporation" was a large and extremely valuable part and portion of the property so offered for sale by the State and so sold to this defendant, and for which it paid the bargained consideration and price of two million dollars. And this defendant pleads and avers that said right to be a corporation cannot lawfully be in this action or by any other means segregated from the other property and mass and destroyed, as is sought in this action by the State moving for such segregation and destruction, the same being in fraud and bad faith while it holds and retains the price paid therefor by this defendant.

That said contract of bargain and sale is in all respects the same in law as if it had been made and entered into by and between private citizens and traders, trading in this State, and cannot be assailed or recalled by the State excepting for the same sufficient causes and by the same legal proceedings in the same form as provided by the laws of this State in force at the time when said contract and sale was made, providing for assaults upon and the rescission of like contracts between private citizens or inhabitants of the State, all of said statutes, laws and remedies and procedures in court, as far as the same affect said contract, being in fact and in law a part of said contract between the State and this defendant, must, at all times, be read into said contract.

That said contract was and is protected from all impairment at the hands of the State by the Constitution of the United States, particularly in the first article thereof, section ten, at all times bearing on the State of Louisiana as a prohibition, while acting or moving, as plaintiff in this action, in impairment of the faith of its
27 own contract, to the same extent as if such impairment had been attempted through and by means of legislation compassing the same effect and result.

That if said joint resolution of the State legislature, referred to in the petition herein, can be or is construed as directing the institution and prosecution of this suit (that is, concurrent resolution, being act No. 150, of the acts of 1898), or as directing the attorney general of the State, in the name of the State, to institute and prosecute this action, in manner and form, as the same is instituted and prosecuted, for the purpose and with intent to segregate from the mass

of the property so sold by the State to this defendant for value its "franchise to be a corporation" for forfeiture and destruction, or, if there exist any other statutes of the State authorizing or directing the attorney general to that end and purpose, said joint resolution and said statutes are severally repugnant to the Constitution of the United States, particularly to section ten of article one thereof, and this defendant specially pleads the same herein in defense of this action, claiming the protection thereof.

That in and by act No. 56, of the acts of 1884, made a part of this answer, as if the same was written herein *in extenso*, the State of Louisiana fully recognized this defendant as an existing corporation and in all things recognized the same as having full power to exist free from any cause of forfeiture of its corporate life or lawful grounds for the rescission of said contract, bargain and sale with which its corporate life is indissolubly connected and welded, and neither the city of New Orleans nor the State of Louisiana has, at any time, tendered back to this defendant the price and consideration that defendant paid for said corporate life and other property, nor the value and cost of any betterment of any of said property by this defendant while in possession thereof, nor have either of them in any way offered or attempted to restore this defendant to its condition as it existed at the time when it so purchased its corporate life and other property as aforesaid, as required by law in the case of rescission of contracts by the law of the State existing and in force at the time, when said sale was made, and at all times since that date. Nor has either the State or the city of New Orleans in any manner attempted to put this defendant in default for any alleged nonperformance of said contract with the State of Louisiana in any lawful manner or form.

And this defendant, saving and reserving the benefit of all the pleas and exceptions and matters in this answer hereinbefore stated and pleaded, and in nowise waiving the same, but at all times insisting thereon, and proceeding to answer specially and in detail the several allegations and alleged separate grounds of forfeiture in said petition set forth, numbered from one to twelve, inclusive, saith, that as to the allegation that the city council of the city of New Orleans has, by resolution, directed or requested the State of Louisiana through its attorney general to institute this action, this defendant saith that the city of New Orleans is a shareholder of the capital stock of the defendant company to the extent of thirty-nine hundred and twenty-seven shares; that but for the bad faith, assaults of the city on the property and rights of defendant, said shares would be an asset of the city, worth the full sum of four hundred and thirty-one thousand nine hundred and seventy dollars, in market value, and that all of the great depreciation in market value of said city stock and asset, and the loss to the city in property, has been the result of the bad faith, attacks and assaults, slanders and libels of the city as a shareholder, having three-sevenths rep-
28 resentation of the board of directors of defendant corporation, and also having, by solemn act and contract, warranted the defendant against eviction, destruction of life and the possession

of all the franchises, property and all other rights, so sold defendant for two million dollars paid to the city therefor.

That said resolution or ordinance was adopted in bad faith and was and is no warrant or authority for the institution of this action by the attorney general for and in the name of the State. That if the said legislation of the city of New Orleans is any authority, lawful direction or warrant to the attorney general of State to institute this action and prosecute the same and can be so held by the courts, then said resolution is repugnant to law, to the constitution of the State and to section 10 of article one of the Constitution of the United States, as impairing the faith of a contract between the defendant and the State of Louisiana, in which the city of New Orleans, an integral part of the State, was chief beneficiary, as well as a party, and bound to observe good faith and fair dealing in respect thereto in its legislation, and this defendant so pleads herein, claiming and demanding the benefit of said guarantee in the Constitution of the United States.

Further answering, this defendant specially denies all and singular the matters and allegations of alleged fact and pretended law in said petition contained, prior to that portion thereof where the same is divided into supposed several and distinct causes of forfeiture, numbered from one to twelve, inclusive, wherein this defendant is falsely charged with fraud, wrongs, malfeasance and non-feasance, and saith the same *is* false and untrue in all respects and particulars and in all things denies the same.

I.

And further answering, specially and separately, to each and all the said several alleged grounds of forfeiture, as set forth and numbered one in said petition, saith, that each and every statement and allegation therein contained is false and untrue and denies the same.

That the truth is, that from the day when this defendant first had corporate life and became the owner of said property, rights and franchises, it has furnished the city of New Orleans and the inhabitants thereof, residing within the area and limits of its mains and pipes, all of the water demanded for consumption, both by the city of New Orleans itself and the said inhabitants, contracting for supply thereof to the full extent demanded of defendant and with greater pressure and head and with more rapid delivery than was ever demanded or contracted for by the terms of its contract with the State or city, and than was the case when said water works was owned and operated by the said Commercial Bank of New Orleans, or while the city of New Orleans was the owner thereof, the period of both of said ownerships covering a term of nearly half a century prior to the date when this defendant became the owner thereof.

That the truth also is that the water so supplied by this defendant has been and is taken from the Mississippi river, at the exact point and locality where it was contemplated in said act No. 33, extra session, 1877, such water should be taken and at the same exact and identical place and location in said river where the public water

supply was had and taken by the said Commercial Bank of New Orleans, during the thirty-five years of its ownership, as well as during the succeeding nine years when the city itself owned said works and provided public water supply, continuing up to the date when this defendant became the owner of said water works in 1878.

29 That the character of the water so taken from said source has always been and still is the same in quality and condition as the water in the river from which it — all times has been and still is taken, and has been so taken at all times since the year 1833, and has been and is taken by defendant from the exact source and is of the exact quality required and provided for in said act No. 33, of extra session, 1877, and by the contract of this defendant with the State, being the source of supply and the quality of water that the city and inhabitants have deemed proper and adequate at all times since 1833, as well as being the particularly named source of supply pointed out and designated by the State legislature in the thirteenth section of said act No. 33, extra session, 1877, referred to in plaintiff's petition.

II.

And further answering, specially said second subdivision or alleged ground of forfeiture set forth in said petition, and numbered two, this defendant also saith that each and every allegation therein contained is false and untrue and denies the same as herein set forth and charged against this defendant.

And defendant saith that the truth is as set forth in its above pleaded answer to the said first subdivision and alleged cause of forfeiture, and again avers that said water supplied by this defendant has been and is of the same quality and from the same source as has been considered and deemed as "adequate to extinguish fires, to wash the yards, alleys and streets, and to supply the inhabitants with water for bathing and domestic purposes," and as "fit for drinking and cooking," and as the best and only available adequate source of public water supply for the city of New Orleans for said purposes by any system of public water works since 1833, and even earlier than that date, and of the quality and from the source that this defendant contracted with the State to supply water.

That this defendant never contracted with either the State or the city of New Orleans to furnish with its water works any supply of clarified or filtered water to the city or to its inhabitants. The State, at the date when said acts of 1877 and 1878 were adopted, and at all time since that date, has so construed the contract of this defendant with the State, and has so asserted through its legislation and General Assembly.

That amongst the numberless acts of bad faith towards this defendant by the city, in open breach of its written contract of sale of said property to this defendant in said legislative acts so ordered to be made, and in express and open violation of the warranty therein covenanted by the city and after it had been in possession and en-

joyment of the entire purchase price thereof paid to the city therefor by this defendant, it assailed this defendant in the courts of the State asserting the invalidity of section 11 of act No. 33, of 1877 (extra session), on the allegation that that section was null for repugnance to the existing State constitution, in that the exemption of the property of defendant from city and parish taxation made the sole consideration for free supply of water to the city itself for public purposes enumerated in that section was prohibited by the State constitution, and pressed that litigation to a final decree in the supreme court of the State, that court declaring such exemption void for repugnance to the constitution. Whereupon the city assessed and demanded municipal taxes from defendant, thus eliminating the sole and only consideration for such free public water supply and destroying all legal right to demand the same from this defendant, as it was advised and believed, whereupon, the State
30 legislature, taking cognizance of this condition of affairs, acted thereon at its session for 1884, and adopted and promulgated act No. 56, of 1884, made a part of this answer, and by said legislation not only recognized the existence of the defendant corporation, as hereinbefore pleaded, but also gave conclusive evidence of the legislative construction of act No. 33, of extra session, 1877, concerning the source from which defendant had contracted to furnish water, as well as the quality of water to be furnished as water supply to the city of New Orleans, enacting, amongst other things, in the fourth section thereof, as follows, to wit:

"SEC. 4. Be it further enacted, etc., That to secure the inhabitants of New Orleans and to the use of the city a supply of filtered or clear water, the city of New Orleans be and is hereby empowered to contract with the said company, and determine upon terms and conditions and fix a price for obtaining from said company such supply of clear or filtered water."

This defendant avers that this action of the legislature foreclosed all dispute and question of the real legislative intention in adopting said act No. 33, extra session, 1877, as to the source and quality of the water supply to the city of New Orleans, called for by defendant's contract with the State in accepting said act as amended, and also was and is in law a declaration that at that time there existed no reason or cause for the forfeiture or recall of any rights granted to, and vested in the defendant under said legislation of 1877 and 1878, as hereinbefore pleaded.

That said act No. 56, of 1884, and section 4 thereof, has been in full force since the day of its promulgation, and yet the city of New Orleans has never attempted to avail itself thereof, nor has it taken any steps or made any proposal to defendant to contract for a supply of clear and filtered water, or offered to make any contribution or incur any necessary expense involved in any attempt to obtain that character of public water supply for the city itself or for consumers of water.

That this defendant becoming satisfied that the city of New Orleans would not avail itself of the provisions of said section four of

said act No. 56, and that it could expect no aid from the city in that behalf, attempted to secure for the city a supply of filtered water at its own expense, although not required by law so to do, and employed engineers and experts in the art, and negotiated with all persons and corporations professing to be able to accomplish that end, and after incurring large expense in said search and negotiation, made a contract with a corporation professing to have the means, inventions and apparatus adequate to filter the water of the Mississippi river in sufficient quantity to supply the water demanded for public water supply in the city, to install their filtering devices and apparatus in connection with the water works of defendant, as will more fully and at large and in detail appear by the record of the case of The National Water Purifying Company *vs.* The New Orleans Water Works Company, No. 12,036 of the docket of the supreme court of the State, being an appeal from the judgment of the civil district court of the parish of Orleans in the same case, being No. 44,548 on the docket of that court, to which record this defendant at all times refers for the details of said contract, and the decreed failure of the National Water Purifying Company to accomplish the results contracted for. That in order to put the pumping machinery of the water works in proper condition and make other changes in the water-works plant necessary to make such attempt, and incorporate and install said filtering device and to make tests of said device and machinery for filtering, this defendant incurred
31 large expenses amounting to forty thousand dollars, all of which was paid from its own moneys, to which the city of New Orleans never contributed anything. That after several repeated expensive trials and tests of said filtering device, the result was an utter failure, as adjudged by the courts in the above-stated cause. That the city of New Orleans has, at no time since said unsuccessful attempt, taken any steps to negotiate for any other attempt, or in any other way to avail itself of said section four of said act No. 56, of the acts of 1884, nor has it proposed to defendant any plan of co-operation with defendant under said section four. And this defendant knows of no means by which a supply of clear or filtered water can be obtained for the public supply of the city of New Orleans, as the state of the art of clarifying and filtering water now stands and exists, although it has made most diligent inquiry and search in that behalf.

III.

And further answering, specially said third subdivision or alleged ground for forfeiture set forth in said petition, this defendant also saith, that each and every allegation therein contained is false and untrue, and denies the same as therein set forth and charged.

And said defendant saith, that the truth is as hereinbefore set forth, in respect of the said first and second charges and alleged grounds of forfeiture above answered by this defendant. And while now and at all times so denying all and singular the allegations of supposed fact and law in said subdivision set forth, defendant, as per

emptory exception thereto, saith, that all and singular the matters charged therein as facts are not sufficient in law to constitute a lawful cause of forfeiture or any other ground of relief prayed for in this action, nor attainable therein by the State, and at all times pleads and insists thereon as a matter of law.

And this defendant further saith, that the pretended construction and declaration of the legal duties of this defendant and the terms of its contract with the State as expressed in the thirteenth section of act No. 33, of extra session of 1877, as amended by act No. 43, of 1878, as set forth and pleaded by the plaintiff in said subdivision three is false both in law and averred fact. That as the offer of the State stood in said act No. 33, it was so burdensome in conditions that no one could be found to accept the offer or purchase the property and franchises tendered for sale by the State at the price demanded therefor, and for that reason the State legislature amended and changed its proposition and offer by act No. 43, of 1878, particularly as to section thirteen of the act of 1877, especially enacting therein, in section five of said act No. 43, as follows:

"SEC. 5. Be it further enacted, etc., That the full, complete and adequate supply of water, referred to in section thirteen (13) of said act No. 33, shall be so construed as to require a supply of water at the height of not less than fifteen (15) feet from the ground wherever the pipes of the water works now exist."

Defendant avers that it has, in all things, complied with all of its obligations in that respect, has increased the area and territory covered by its mains and pipes and has increased the water pressure on its mains and pipes far beyond anything that is or can be lawfully demanded of this defendant under said contract with the State under the provisions of said section thirteen of said act No. 33, as amended, and has installed more fire plugs, hydrants, and fire-wells than required of it by law, and has, at all times, complied with any request of the authorities of the city of New Orleans for the
32 installation of additional hydrants, fire-plugs, and fire-wells in any part of the city where its mains and pipes extend, and has supplied the same with water at high pressure, far exceeding a column of water fifteen feet from the ground, and has, at all times, been willing to comply with any such request of the city of New Orleans. And that if it was true that the supply of water for the extinguishment of fires is, or has been, insufficient within the area covered by the pipes and mains of this defendant, which is specially denied, it has been by the fault of the city of New Orleans, and not by reason of any fault, dereliction or breach of contract by this defendant, in any respect or particular.

IV.

This defendant, answering specially the said fourth alleged cause of forfeiture in said petition set forth, therein numbered four, specially denies all and singular each and every allegation therein contained, and denies specially that it has been guilty of any dereliction of duty or committed any breach of the terms and conditions

of its contract with the State of Louisiana, and avers that all of said charges and allegations are false and untrue; and, for further answer to said subdivision four, adopts and asserts the matters and exceptions by it set up and averred in its answer to subdivision one, two and three hereinabove pleaded.

V.

This defendant, further answering, specially said fifth alleged cause of forfeiture in said petition set forth, specially denies all and singular each and every allegation therein contained, and saith that the same are each and all false and untrue.

And further saith, the plaintiff has therein falsely stated the legal import and meaning of section fifteen of said act No. 33, extra session, 1877. That the truth is, that in and by said section fifteen the legislature of the State conferred upon this defendant, through its board of directors, legislative power and authority to establish and fix the rate of water charges for water sold, subject only to the condition that such rates should not be so high as to yield a net profit of more than ten per cent. per annum on the two million dollars of the capital stock of the defendant corporation, and also provided that the rate of charges for water so fixed should not exceed in amount the rates which the city of New Orleans had the right to charge for a like supply at the time of the adoption of said act No. 33, extra session, 1877.

That the right to establish such water rates, so granted to defendant, was and is the right to legislate on the subject conferred and expressly delegated by express delegation and contract carrying with it all the legal incidents connected with that power, one of which is the legal presumption of the correct exercise and use thereof by the possessor, not to be overthrown, except by the solemn adjudication of a competent court on an issue duly and properly made and determined in a competent court.

That the board of directors of defendant, consisting of seven members, three of whom have always been officers of the government of the city of New Orleans, representing the city, have, by virtue of the legislative power vested in said board of directors for that purpose, by said act No. 33, extra session of 1877, established and fixed the rate of charge for water furnished to consumers, and that has been charged by defendant, and the presumption of correct legislation by said board of directors in that behalf attaches thereto and has never been overthrown or adjudicated against in any suit by the city or by the State on an issue as to the legality thereof.

That the rate of charges so established has never yielded or produced ten per cent. profit on the capital stock of the defendant corporation at any time, nor has said rate of charges at any time been in excess of the rate that the city of New Orleans had lawful right to charge and collect at the date of the adoption of act No. 33, of extra session of 1877, for a like supply, with "equal facilities and opportunities for drawing water from its pipes." The truth being that the administration of the public water

33

works, while owned and operated by the city, and at the date of the adoption of said act No. 33, of extra session of 1877, was so wretched, and the works in such dilapidation, and the management so reckless, careless and incompetent, through the fault of the city, that it was impossible for the city to give and furnish consumers the same quantity of water through the same house and yard fixtures, cocks and valves as this defendant has delivered to the same consumers.

The average pressure on the pipes and mains of the works, while owned and operated by the city, was never in excess of the pressure exerted by a water column of fifteen feet from the ground in vertical height*h*, insuring only a very sluggish flow of water not adequate to deliver water above the average ground story of the average building, whereas, since the ownership of the works has been vested in defendant, the water pressure on the pipes and mains has been greatly increased, until it is equal to the pressure of a water column of from sixty to eighty feet in vertical height*h* from the ground, allowing water to flow to the upper stories and roof tanks of buildings not erected above the height*h* of sixty or eighty feet, without involving the consumer in the expense of pumping the water to all points above fifteen feet from the ground and delivering a largely increased flow and quantity of water from the same size openings, valves and cocks as were used when the city owned and operated the works, largely increasing the expense involved in, and incident to the increased supply and pressure of water furnished by the defendant without any increased expense or charge to the consumer for such supply and additional pressure.

That, if this was not the case, and it was true, as averred by the plaintiff (which is at all times denied), that the charges and water rates, as fixed by the defendant, have been and are higher than the city could lawfully charge when it sold the works, the fault, if any, is as much the fault of the city of New Orleans as of this defendant, the city of New Orleans not only having participated, through its directors, in the establishment of the rate of charges now complained of, but has, at all times, participated in all dividends and earnings accruing to the defendant corporation from such charges and disposed of in dividends pertaining to the 3927 shares of capital stock of the corporation, owned and held by the city, from the date of the creation of defendant corporation, and has expended the money so received for its own purposes and has never returned or offered to return any part thereof to defendant, as money illegally disbursed in dividends, whereby the city of New Orleans and the State of Louisiana, through said city, stand, and are in law estopped from in any way and for any purpose asserting, either as an alleged cause of forfeiture, or complaint in any form against this defendant, that any unlawful or illegal charge for water has been made or collected and disbursed in dividends by the defendant company, and this defendant so pleads herein.

And this defendant further avers that no lawful action or proceeding for the forfeiture of defendant's charter or any of its other property, rights, and franchises, can be lawfully based on any al-

leged non-compliance with any of the provisions of said section 15 of act No. 33, E. S., 1877, at the instance of the State,
34 in this or any other form of proceeding, because said section 15 provides for its own enforcement in the courts by legal proceedings at the suit of the city of New Orleans, with which duty said city stands charged in that section by the command of the State. That it was to enable the city to perform that duty that three of the executive and administrative officers of the city government are made *ex officio* directors of the defendant corporation, to participate in all legislation establishing water rates, such representation not to cease even when the city has parted with all of its shares of the capital stock of defendant corporation. That it was for the same reason and purpose that the city was given the right of visitation by the city council, through a committe of five councilmen, for the purpose of determining whether the restrictions imposed by said section 15 have been and are observed by the board of directors of the corporation, as well as whether there has been any overcharge in water rates, or whether there has been any excess of net earnings from water rates over the limit of net earnings fixed in said section fifteen. That said section fifteen provides a special remedy by judicial proceedings for the adjustment of any difference of opinion between the city authorities and defendant, both as to the rate of water charge or concerning any excess of revenues and net profits arising therefrom, or as to the correctness of the legislation of the board of directors of defendant, establishing water rates, by mandamus or other judicial proceedings in the courts.

This defendant avers that by reason of the provisions of said section fifteen of said act No. 33, E. S., 1877, that section provides for its own enforcement, devolving that duty upon the city of New Orleans, acting through the courts by special judicial proceedings, and that no pretended neglect, mistake or failure of duty prescribed in said section fifteen made by this defendant, can be made a lawful ground for this action or for forfeiture of any of the rights or property of defendant by the State until after this defendant has had its day in court thereon at the suit of the city of New Orleans, and has unlawfully neglected, failed or refused to comply with any lawful judgment against the corporation therein, if adverse to the decision and legislation of its own board of directors, and this defendant so pleads herein as peremptory exception to said subdivision five.

VI.

And this defendant specially answering, said sixth special separately enumerated pretended cause of forfeiture, in said petition contained, at all times protesting against the confused aggregation of vague, loose and indefinite allegations of supposed law and pretended facts contained therein, saith that the same, as pleaded therein, are each and all, in all respects and particulars, false and untrue, and denies the same; and as to the same in addition to said denial of the truth thereof, this defendant pleads and avers all of the matters, pleas and exceptions by defendant hereinbefore pleaded

in its answers to said subdivision 1, 2, 3, 4 and 5, adopting the same without repetition.

And further, in this behalf as peremptory exception, pleads that said subdivision six does not set forth or disclose any cause of forfeiture sufficient in law to warrant the judgment prayed for, or any other relief in law, even if true as alleged, which this defendant at all times denies.

VII.

Said defendant further answering, specially said subdivision and alleged ground of forfeiture in said petition, numbered seven, denies each, every and all of the allegations therein contained, at
35 all times protesting against the vagueness and indefiniteness thereof, and further saith, that it has, at all times, to the best of its knowledge, in all things, complied with its contract obligations with the State of Louisiana and observed all of the restrictive conditions contained therein, and has violated none of them.

And further saith, that the city of New Orleans, through its representation on the board of directors of defendant, as well as by and through the annual reports of the defendant to the city, and to all other shareholders, has, at all times, participated in the management of defendant's affairs and been cognizant of the condition and management thereof and participated in and received all benefits, earnings and dividends to the extent of the proportion thereof accruing to the thirty-nine hundred and twenty-seven shares, at all times owned and held by the city, constituting, approximately, one-fifth of all of the dividends ever declared by defendant, and has never tendered back to defendant any part thereof, but, on the contrary thereof, has expended said dividends for its own purposes as a legitimate part of city revenues, whereby said city of New Orleans is both, by good conscience and in law, estopped from assailing this defendant for any pretended illegality in the declaration or payment of any dividends or for any other reason involved in the management of its affairs, through its board of directors, either directly or through the State in this action, and from fomenting such attack by the adoption of the resolution of importunity to the attorney general, harrassing the legislature, employing the city attorney to reinforce the attorney general, or by any other devices and schemes whatsoever, and this defendant so pleads herein.

VIII and X.

And said defendant further answering, specially said subdivisions eight and ten in said petition, attempting, as the defendant understands the same, to charge substantially the same alleged grounds of forfeiture, saith, that the said matters alleged in said subdivisions do not allege or set forth any contract with the State of Louisiana or any pretended violation thereof, that can be made a cause of complaint or forfeiture by the State of Louisiana, nor any part of any obligation contained in defendant's charter, and this defendant so pleads for peremptory exception herein and insists thereon.

And further, defendant saith, that it is true that this defendant on the 3d day of October, 1884, did enter into a mutual written contract with the city of New Orleans, passed by due authority before J. D. Taylor, official notary of the city of New Orleans at that date, a copy whereof is annexed to this answer and made a part hereof for certainty, marked "Answer, Exhibit C," being a contract containing mutual covenants, entered into for the reasons stated in said contract and in act No. 56, of acts of 1884, hereinbefore made a part of this answer.

That said legislation and contract were made necessary by the action of the city of New Orleans in assailing the eleventh section of act No. 33, E. S., 1887, for alleged unconstitutionality, as in this answer hereinbefore set forth.

That shortly after said contract of October 3, 1884, was entered into, E. Conery, Jr., and others, averring themselves to be tax-payers, instituted an action for the benefit of the city of New Orleans against said city and this defendant, by a petition, charging frauds against both defendants, praying, among other things, that said contract be rescinded as *ultra vires* the powers of the city as the fraudulent result of unlawful conspiracy, and because of alleged repug-
36 nance of act No. 56, of acts of 1884, to the State constitution for various assigned reasons, praying for injunction against both defendants, prohibiting the observance of any terms of said contract; said cause being 15,774 of the docket of the civil district court for the parish of Orleans, to the record of which this defendant at all times refers for certainty.

The city appeared therein as defendant, and answering, denied all of the frauds and illegal acts charged against it, and all illegalities charged against the contract and act No. 56, of 1884; but between the date of its said answer and the trial of the cause on its merits, the personnel of the city government was changed by an election, and the city changed front in the litigation, and without withdrawing its first answer therein joined the tax-payer plaintiffs, filing another answer, adopting and confessing all of the charges of fraud and other averments of the tax-payers' petition and joined in the prayer thereof for the rescission of the contract and for injunction against itself.

The trial in the lower court resulted in a judgment as prayed for, whereupon this defendant appealed to the supreme court of the State, the cause being No. 10,334 on its docket, where said decree was reversed and the petition and demand dismissed.

Both E. Conery, Jr., *et al.*, and the City of New Orleans sued out separate writs of error to the United States Supreme Court, where they were again defeated, said case being reported in 41 An. 910, and in 142 U. S. 79, to which defendant at all times refers for certainty.

That the effect of that judgment was to foreclose all issues, questions and demands therein litigated and render the same *res adjudicata*, both as to the city of New Orleans and the State of Louisiana for the purposes of this action, and this defendant so pleads herein.

And defendant avers that it has in all respects fulfilled and observed all of its obligations in said contract, but the city of New Orleans has failed so to do, and is largely indebted to defendant by reason of such default.

Defendant further saith, that the constitution of the State, adopted in 1879, and every article and provision thereof, was adopted subsequent to the charter of this defendant, and that parts thereof, particularly articles 46, 234, 248 and 258, are severally, as to this defendant, repugnant to the Constitution of the United States, article 1, section 10, and other provisions of said Federal Constitution, prohibiting any State from impairing the faith of contracts, and this defendant so pleads herein, and saith that, as to this defendant, the same are severally null and void.

That the same is true as to and concerning articles 48, 262 and 276 of the now existing constitution of the State. The same are severally also repugnant to article 1, section 10 of the Constitution of the United States, and this defendant so pleads herein, claiming the protection of the Federal Constitution in its behalf.

And as to all allegations in said subdivisions eight and ten, not herein admitted, this defendant denies the same and says the same are false and untrue.

IX

And further answering, specially said subdivision and alleged cause of forfeiture numbered nine, said defendant denies each and every allegation therein contained, and saith that the pressure on the mains and pipes maintained by the city in 1877 and 1878 was only that of a column of water of a vertical height of fifteen feet from the ground, and that this defendant is not
37 advised of any method of application of power or device by which a pressure of water equal to sixty feet and more from the ground can be obtained and maintained without increased expense and larger expenditure of power and fuel than is involved in creating and maintaining a column of fifteen feet, and will adopt any such scheme and device as soon as it is discovered and available, and for peremptory exception saith, that the allegations in said subdivision nine, do not, if true (which is denied), aver or state any lawful cause of forfeiture against this defendant or warrant any of the relief prayed for in said petition.

XI.

And further answering, specially said subdivision and alleged ground of forfeiture, numbered eleven, which is in words and figures, as follows:

"It, in 1878 or 1879, illegally sold or issued its own stock of the par value of $100.00, at $33.00 per share, where it had no power to issue it at less than $100.00 per share."

This defendant saith, that, as pleaded, this subdivision is so vague and uncertain in meaning that it is unable to determine what is intended to be charged.

That, if it is intended to be charged that at the dates named or at any other time this defendant has made and put out and sold any shares of its capital stock in excess of the twenty thousand shares, authorized by its charter, to be made and delivered to the city of New Orleans, the averment is not only false, but is libellous.

If it was only intended to charge that this defendant, subsequently to the delivery of all of its capital stock to the city of New Orleans, as required by its charter, became the owner of some of said shares, in compromise of, or in settlement of any demand of the defendant, from otherwise insolvent debtors, or in any other lawful manner, and has sold the same in the market at market price, said subdivision only avers that the defendant has exercised a lawful right vested by law in all corporations.

That this defendant, during its existence, has never exercised that right but on one occasion, and was then compelled to do so by the wrongs and bad faith of the city of New Orleans. That after the adoption of said act No. 33, E. S., 1877, and act No. 43, 1878, and after it was known by the city that the water works was to be transferred and sold to defendant, and that all water supply must thereafter be provided by this defendant, the city of New Orleans made haste to demand of, and receive from consumers pay for water in advance for a period, when it well knew this defendant must supply the water so paid for in advance, and incur all expense therefor, and that the city could not deliver the water so sold with prepayment to the city. The money so unlawfully obtained by the city amounted to twenty-five thousand dollars, which the city took into its bankrupt treasury and disbursed for its own purposes, and was unable or unwilling to return to defendant in cash. That this defendant, in order to avoid total loss of all of said money, agreed to take two hundred and fifty shares of its capital stock owned by the city, in compromise of said demand, at the par value of one hundred dollars per share, and after receiving one dividend thereon of two dollars per share, sold said shares at the market price thereof at the date of sale, realizing with said dividend, only $8,250.00, and was compelled to submit to the total loss of the balance of said $25,000.00, so abstracted from its revenues by the said unlawful act of the city. That except, as above stated, said allegations are false and untrue, and defendant pleads, as peremp-
38 tory exception, that the same, if true (which is at all times denied), are insufficient in law to entitle the plaintiff herein to any relief prayed for in said petition.

XII.

Defendant further specially answering said subdivision, numbered twelve, saith, that it denies all and singular all of the allegations therein contained, and pleads as peremptory exception herein that the same, if true (which is at all times denied), are insufficient in law to warrant any forfeiture or relief prayed for by plaintiff in this action.

And said defendant further saith, that if there are any matters or allegations in said petition contained that this defendant has not either admitted or specially denied, the same are false and untrue.

And further, *that this answer is made herein, subject to each and* all of the pleas and exceptions therein made and pleaded, either to the entire petition and demand, or to each subdivision and separately alleged ground of forfeiture, this defendant in nowise waiving the same or any of them, but at all times insisting thereon and praying that they may be sustained, and also prays judgment against said plaintiff's demands, with all costs that can be by law adjudged against the said plaintiff, and for all general relief.

J. R. BECKWITH,
FARRAR, JONAS & KRUTTSCHNITT,
E. HOWARD McCALEB,
Attorneys for Defendant.

39 EXHIBIT "A." Annexed to and Made a Part of Defendant's Answer.

Filed March 23rd, 1899.

Commercial Bank of N. O.

NEW ORLEANS, *January 13th*, 1869.

Resolved:—That Felix Labatut, president of this bank be and he is hereby authorized to sign a notarial act transferring and delivering to the city of New Orleans the water works purchased from this corporation together with the movable and immovable property included in said purchase and to receive for the sale of said works and property an obligation of the mayor of said city to deliver within sixty days from the signing of such act, bonds of the city of New Orleans to the amount of thirteen hundred and ninety-three thousand and four hundred dollars, having thirty years to run and bearing interest at the rate of five per centum per annum from the 1st day of January and the 1st day of July in each and every year.

A true copy.

(Signed) FELIX LABATUT, *President.*

STATE OF LOUISIANA, }
City of New Orleans. }

I, Andrew Hero, Jr., a duly qualified notary public of and for the parish of Orleans, State of Louisiana, certify that the above is a true copy of the original instrument, which is annexed to and made part of the act of sale from the Commercial Bank of
40 New Orleans unto the city of New Orleans, passed before me, notary, on January 19th, 1869, and extant in my notarial archives.

As witness my hand and seal at New Orleans, La., this January 31st, A. D., 1869.

ANDREW HERO, *Not. Pub.*

STATE OF LOUISIANA,
Parish of Orleans, City of New Orleans.

Be it known, that on this nineteenth day of January in the year of our Lord, one thousand, eight hundred and sixty-nine, and the ninety-third of the Independence of the United States of America, before me, Andrew Hero, Jr., a notary public, in and for the parish of Orleans, and official notary for the city of New Orleans, duly commissioned and qualified, and in the presence of the witnesses hereinafter named and undersigned, personally came and appeared, the Honorable John R. Conway, mayor of the city of New Orleans, and herein acting in such capacity of mayor, under and by virtue of resolution number 1232, new series, passed by the honorable, the common council of New Orleans, approved January the sixteenth, 1869; a certified copy of which is hereto annexed for reference, and the same is in the words and figures following, to wit:—

Resolved:—That in order to complete the purchase and delivery of the water works purchased from the Commercial Bank of New Orleans, the mayor be, and is hereby authorized to sign a notarial act acknowledging delivery of the same, and the movable and
41 immovable property included in said purchase, and on the signing of such act by the president of the Commercial bank, duly authorized, the mayor be and is hereby authorized to give his obligation to deliver to said president of the Commercial bank, within sixty days from the signing of such act, bonds of the city of New Orleans, to the amount of thirteen hundred and ninety-three thousand and four hundred dollars, having thirty years to run, and bearing interest at the rate of five per centum per annum from the first day of January, 1869, payable semi-annually, on the first day of January and the first day of July in each and every year, provided the same meet the approval of the city attorney.

And also came and appeared Felix Labatut, president of the Commercial Bank of New Orleans, a duly incorporated institution of this State, and herein acting in such capacity of president, under and by virtue of a resolution passed at a meeting of the board of directors of said bank, held on the thirteenth day of January, instant; a duly certified copy of which said resolution is hereto annexed for reference.

Which said parties declared, that whereas, by an act of the legislature of this State, incorporating the said Commercial bank and granting it the privilege of conveying water from the Mississippi river into the city of New Orleans and its faubourgs and into the houses of its inhabitants, entitled "An act to incorporate the Commercial Bank of New Orleans," approved April 1st, 1833, it was provided by the 4th and 42nd, sections thereof, that at any time after the expiration of thirty-five years from the passage of said act, it shall be lawful for the corporation of the city of New Orleans to purchase from said Commercial Bank of New Orleans the
42 water works to be constructed by said company by virtue of said act, at a price to be fixed by arbitrators, of whom five shall be chosen by the president and directors of said Commercial

Bank of New Orleans and five by the city council of New Orleans and none of whom are to be stockholders in said company, nor members of the city council of New Orleans. And that the award of said arbitrators, in writing, in case of their agreement, should be binding on the respective parties; and that the amount so decided upon should be payable in bonds of the mayor, aldermen and inhabitants of New Orleans, bearing an interest of five per centum per annum, payable semi-annually, and redeemable in not less than ten, nor more than thirty years from the day on which said award should be signed and the said water works delivered over to the said corporation of New Orleans.

And whereas, the city of New Orleans has deemed it expedient to purchase the said water works, as provided for in sections 4 and 42 of the aforesaid act, and has signified its intention so to do under and by virtue of resolution No. 889, new series, passed by the honorable the common council of New Orleans, and approved March 27th, 1868; a certified copy of which said resolution is hereto annexed, and it is in the words and figures following, viz:—

No. 889, new series.

Whereas:—By an act of the legislature of the State of Louisiana, to incorporate the Commercial Bank of New Orleans approved April 1, 1833, establishing a company in the city of New Orleans invested with banking privileges, and to be entitled the "Commercial Bank of New Orleans," the chief object of which said company is to be the conveying of water from the river into the city of New
43 Orleans and its faubourgs, and into the houses of its inhabitants:—

Whereas:—The first section provides the original capital stock shall be three millions of dollars.

Whereas:—The fourth section provides that at any time after the expiration of thirty-five years from the passage of this act it shall be lawful for the corporation of the city of New Orleans to purchase from the Commercial Bank of New Orleans the water works constructed by said company in virtue of this act, and said company shall not refuse to sell the works aforesaid, with all the rights and privileges appertaining to the same, on the terms hereinafter provided.

Whereas:—The thirty-eighth section provides that the corporation of New Orleans shall be supplied by said company, free of charge, with all water necessary for the extinguishment of fires and other public purposes; as they progress in laying aqueducts they shall place, free of any charge whatever, two hydrants of proper construction in front of each square, and the said company shall supply a sufficient quantity of clear, pure and wholesome water for the use of its inhabitants, at the elevation of fifteen feet when the same may be required.

Whereas:—The forty-second section provides that if after the expiration of thirty-five years the said corporation of New Orleans shall be inclined to buy the said water works from the Commercial

Bank of New Orleans, the price shall be fixed by arbitrators, five of whom shall be chosen by the president and directors of the Commercial Bank of New Orleans, and five by the city council of New Orleans; said arbitrators shall take into consideration the value of the water works and grounds appertaining thereto; and the amount so agreed upon shall be payable in bonds bearing five per cent. interest, redeemable in not less than ten nor more than thirty years; therefore, be it

Resolved:—That the city of New Orleans will purchase the Commercial Water Works upon the terms and conditions as provided for in an act of the legislature of the State of Louisiana to incorporate the Commercial Bank of New Orleans, approved April 1st, 1833.

(Signed) WM. T. HEPP,
President Board of Assistant Alderman.

(Signed) JAMES GRAHAM,
President Board of Alderman.

Approved March 27, 1868.

(Signed) E. HEATH, *Mayor.*

(A true copy:)
D. K. WHITTAKER, *Secretary.*

And whereas, agreeably to the provisions of said section 42 of the aforesaid act of the legislature, incorporating said Commercial Bank of New Orleans, the common council of the city of New Orleans, at a joint session thereof, held on the 7th April, 1868, elected Messrs. Josiah B. Richardson, Edward Filleul, John M. G. Parker, William H. Bell and Daniel Blair, all of this city, as the five arbitrators on the part of the city; and at a subsequent joint session of said council, held on the 5th day of May, 1868, John Lockwood, of this city, was elected as one of the five arbitrators on the part of the city, in the place of Daniel Blair, previously elected but who had resigned the position of such arbitrator; as will appear by reference to the annexed extract from the minutes of said common council. And the president and directors of said common council agreeably to said section No. 42, at a meeting thereof, held on the 2nd, day of May, 1868, elected Messrs. William C. C. Claiborne, John Communy, Frank H. Hatch, James Freret and Joseph Hernandez, all of this city, as the five arbitrators on the part of the said Commercial Bank of New Orleans; as will appear by reference to the annexed extract from the minutes of the proceedings of the said meeting.

And whereas, the said ten arbitrators, after having taken into the consideration the value of the said water works and grounds appertaining thereto, for supplying the city and faubourgs of New Orleans with water by the said company, agreed and fixed the price at which said water works and all its appurtenences (with the exception of the buildings and lot of ground situated on Dryades street) should be sold to the city of New Orleans for the sum of two million

of dollars, payable in bonds of the city of New Orleans as provided for by the 42nd section of the charter of said bank, which said report is in the words and figures following, to wit:

To the honorable mayor and common council of New Orleans:

We, the undersigned, having been appointed by the city of New Orleans and the Commercial Water Works Company arbitrators for the purpose of fixing the price for which said water works and its appurtenances are to be sold to said city of New Orleans, five of us having been appointed by the common council of said city, namely, J. M. G. Parker, Josiah B. Richardson, John Lockwood, Ed-
46 ward Filieul and William H. Bell;

And five by the said Commercial Water Works Company, namely: W. C. C. Claiborne, John Communy, Frank H. Hatch, James Freret, and Joseph Hernandez;

After having met several times and examined thoroughly the property of said company, and taken into consideration the value of the water works and grounds appertaining thereto, for supplying the city and faubourgs of New Orleans with water by said company, hereby fix the price of said water works, in pursuance to the 42nd section of the charter of said corporation, at the sum of two millions of dollars, for which price the water works and all its appurtenances (with the exception of the buildings and lot of ground situated on Dryades street) are to be sold by said corporation to the city of New Orleans, the said sum payable in bonds of the city of New Orleans, as provided by the 42nd section of the charter of said bank.

JOHN LOCKWOOD.	W. C. C. CLAIBORNE.
JOSIAH B. RICHARDSON.	F. H. HATCH.
J. HERNANDEZ.	E. FILLEUL.
W. H. BELL.	JOHN M. G. PARKER.
JN. COMMUNY.	JAS. FRERET.

New Orleans, July 22, 1868.

all relative to which will more fully appear by reference to the annexed certified extract from the proceedings of the board of assistant aldermen of the common council of the city of New Orleans, at a meeting thereof, held on the 28th day of July, 1868.

And whereas, the city of New Orleans is a stockholder in the capital stock of the said Commercial Bank of New Orleans
47 for five thousand shares of one hundred dollars each, by reason of which, the said city is entitled to a credit of five hundred thousand dollars on the aforesaid sum of two millions dollars, agreed upon by the said arbitrators as the price which the said city of New Orleans should pay for said water works and appurtenances; said city is also entitled to a further credit on said price of the sum of one hundred and six thousand, six hundred dollars, the same arising from its interest as such stockholder in and to the cash pertaining to the sinking fund created under the provisions of the 23rd section of the charter of said Commercial bank, and which said sums of five hundred thousand dollars and one hundred and six

housand, six hundred dollars, making the total sum of six hundred nd six thousand, six hundred dollars, being deducted from the aid price and sum of two millions of dollars, makes the amount vhich said city of New Orleans is to pay for the aforesaid water vorks, with the appurtenances and grounds appertaining thereto, he sum of one million, three hundred and ninety-three thousand nd four hundred dollars, payable in bonds, which the said city is uthorized to execute and deliver under the provisions of an act of he General Assembly of this State, entitled "An act to amend n act, entitled 'An act to incorporate the Commercial Bank of New Orleans,' approved April 1st, 1833," approved July 22nd, 1868.

Now therefore, in consideration of the premises, and in order to give unto the city of New Orleans an authentic title to the said water works, and all appurtenances thereto pertaining, the said Felix Labatut moreover declared, in his said capacity, that by virtue of the authority in him vested by the aforesaid resolution of the board of directors of said Commercial Bank of New Orleans, and for the consideration and on the terms and conditions here-
48 inafter expressed, he does by these presents cede, grant, bargain, sell, transfer, assign, set over and deliver unto the city of New Orleans, herein represented by the said Honorable John R. Conway, mayor thereof, who accepts the same for the said city and its assigns, and acknowledging delivery and possession thereof:—

All and singular the property, real and personal, of whatever nature or kind soever, belonging to the water works, constructed and established by the said Commercial Bank of New Orleans and the dykes, mounds, reservoirs, machinery, engines, boilers, pumps, conduits, aqueducts, pipes, tools and other appurtenances appertaining thereto.

And the real estate aforesaid is described as follows, to wit:

1st. A certain square of ground, together with the reservoir, buildings and all other improvements thereon, and the rights, servitudes, ways, privileges and appurtenances thereunto belonging or in anywise appertaining, situated in the Faubourg Annunciation, first district of this city, designated by the number eighteen on a plan of said fa-bourg, drawn by B. Lafon, surveyor, dated the fifteenth day of May, one thousand, eight hundred and seven; which said square is bounded by Religious, St. Thomas (formerly St. John the Baptist), Richard and Market streets; and it has a front on each of the said streets of three hundred feet. Said square of ground was acquired by the said Commercial Bank of New Orleans by purchase and as the last and highest bidder thereon, at a public sale thereof, made by George Washington Morgan, sheriff of the parish of Orleans, aforesaid, on the fifth day of May, one thousand eight hundred and thirty-four, under and by virtue of an order of seizure and sale to him directed by the honorable the
49 parish court of the parish of Orleans at the suit of Disier Dreux *vs.* John Green, number 7277, of the docket of the said court; as per the deed of said sale in the premises, hereunto

annexed, made by the said sheriff and bearing date the nineteenth day of May, A. D. eighteen hundred and thirty-four. And by an act passed before Hilary B. Cenas, late a notary in this city, on the nineteenth day of May, eighteen hundred and thirty-four, John D. Bein, James Peuch, John Armstrong, William E. Leverich, Alexander McKeever, Isaac L. McCay and Sarah Matilda Beck, parties to said act and joint proprietors of said square of ground at the time of the public sale thereof made as aforesaid, did severally and each for the proportion of the said square of ground claimed by him or her therein, ratify and confirm the said sheriff's sale, and hold the same binding on them in the same manner and to the same extent as if it had been their own proper act and will; all in relation to which will more fully appear in the said act, to which reference is hereby made;

2nd. A certain piece or portion of ground, together with all the buildings and improvements thereon, and the machinery, boilers, engines, cisterns, rights, privileges, servitudes, ways, and appurtenances thereunto belonging or in anywise appertaining, situated in the Suburb Lacourse, first district of this city, in the square bounded by New Levee, Tchoupitoulas, Richard and Orange streets, measuring one hundred and ninety-one feet, nine inches and six lines front on New Levee street, one hundred and ninety-one feet, nine inches and four lines front on Tchoupitoulas street, three hundred and eighty-three feet, seven inches and three lines front on Richard street, and three hundred and eighty-three feet, seven inches and three lines on a straight line running from the termination of the line on New Levee street aforesaid to the termination of the line on Tchoupitoulas street aforesaid, parallel to Orange street, and dividing the said piece or portion of ground from the properties now or formerly belonging to A. Caldwell and to R. Toledano, which form the remainder of said square.

Said piece or portion of ground was, prior to its acquisition by the said Commercial Bank of New Orleans, divided into twenty lots; and they were acquired by said Commercial bank as follows, to wit: Eight thereof, designated by the numbers 1, 2, 3, 4, 5, 18, 19, and 20 on a plan thereof, drawn by Charles F. Zimpel, surveyor, and deposited in the office of G. R. Stringer, late a notary in this city, as plan No. 4 and measuring together one hundred and ninety-one feet, nine inches and four lines front on Tchoupitoulas street, and one hundred and eighty-four feet, four inches and seven lines front on Richard street, forming the corner of Tchoupitoulas and Richard streets in said square, by purchase and as the last and highest bidder thereon at a public sale thereof, made by George W. Morgan, sheriff of this parish, on the sixteenth day of June, A. D. eighteen hundred and thirty-four, by virtue of an order of execution to him directed by the district court of the first judicial district of the State of Louisiana, in a suit of partition, entitled, "John Green and T. W. Justamond *vs.* Widow Maguire in her own name and as tutrix of her minor child," No. 11,213 of the docket of said court.; as per the said sheriff's deed of said sale, dated

the 10th day of July, 1834. Also, seven thereof designated by the numbers 1, 2, 3, 4, 5, 6 and 7 on a plan drawn by said Surveyor Zimpel, dated 27th of April, 1832, and deposited in the office of said late notary H. B. Cenas; which said
51 seven lots measure together, seventy-one feet, nine inches and six lines front on New Levee street, and one hundred and ninety-nine feet, two inches and four lines front on Richard street, forming the corner of New Levee and Richard Sts., in said square, by purchase from Levi Pierce, as per the act of sale thereof, passed before the said late notary H. B. Cenas, on the 13th day of April, 1835. Also, two thereof, designated by the numbers 9 and 10 on a plan drawn by said Surveyor Zimpel, deposited in the office of said notary G. R. Stringer, and measuring together forty-eight feet front on New Levee street, by purchase from Pascal M. Tourne and Nicholas Beckwith; as per the act of sale thereof passed before the said late notary H. B. Cenas on the 3rd day of April 1835. Lastly, the three remaining of said lots, designated by the numbers 6, 7, and 8 on a plan drawn by Surveyor Zimpel, in the year 1832, and deposited in the office of said notary G. R. Stringer, measuring together, seventy-two feet front on New Levee street, by purchase from Alexander Grailhe, as per act of sale thereof, passed before the said late notary H. B. Cenas, on the 14th day of February, 1839. And by an act of compromise, entered into between the said Alexander Grailhe and the said Commercial Bank of New Orleans, and passed before the said notary H. B. Cenas on the 13th day of December, 1844, certain matters of dispute between the said parties, growing out of said sale, were settled to their mutual satisfaction.

And the personal property herein transferred having been delivered to the commissioners of the water works of said city of New Orleans, and they being satisfied with the quantity and nature of the articles so delivered, the said Mayor Conway hereby dispenses
52 with a particular and exact inventory thereof, for annexation hereto, as is otherwise required by law.

By reference to the annexed certificates of the register of conveyances and the recorder of mortgages in and for this city and parish, dated this day, it will be seen, first: that the real estate and appurtenances herein described have not been alienated by said Commercial Bank of New Orleans, prior to the date hereof, and stand registered in its name; and second, that the said property is free from encumbrances in the name of said bank, with the exception of the privilege of drainage; and also the general mortgage in favor of the city of New Orleans for the sum of two thousand and three hundred and ninety-two dollars, with interest, costs, etc., resulting from a judgment rendered by the honorable the second district court of New Orleans, on the thirteenth day of March, eighteen hundred and fifty-eight, against the Commercial water works for taxes of eighteen hundred and fifty-six.

To have and to hold the said property and appurtenances unto the city of New Orleans and its assigns forever.

And the said Labatut, in his said capacity, moreover transfers

unto the city of New Orleans all the rights and actions of warranty to which the said Commercial Bank of New Orleans is or may be entitled against all the former proprietors of the property herein conveyed, subrogating the said city of New Orleans to the said rights and actions to be by it enjoyed and exercised in the same manner as they might have been by said Commercial Bank of New Orleans.

This sale and transfer is made and accepted in conformity with the above award of said arbitrators and agreeably to the
53 aforesaid deduction, agreed upon by and between the board of directors of said Commercial Bank of New Orleans and the city of New Orleans, for and in consideration of the price and sum of one million, three hundred and ninety-three thousand, four hundred dollars and interest as hereinafter expressed; in settlement of which the said Mayor Conway hereby promises for and binds and obligates the city of New Orleans to deliver or cause to be delivered within sixty days from and after the date of these presents, unto the president of said Commercial Bank of New Orleans, bonds of the city of New Orleans, signed by the mayor, comptroller and treasurer thereof, amounting in the aggregate to the said sum of one million three hundred and ninety-three thousand, four hundred dollars and of such amounts as may be agreed upon, payable on the first day of January A. D. eighteen hundred and ninety-nine, at the office of the city treasurer, and bearing interest at the rate of five per cent. per annum from and after the first day of January A. D. eighteen hundred and sixty-nine, payable semi-annually on the first day of January and July of each and every year during the period aforesaid, at the office of said city treasurer, and for which interest the requisite number of coupons will be attached to each bond.

The afore-described real estate is exempted by law from the payment of all State and city taxes; and receipts have been produced and exhibited to me, notary, showing that eight several installments for drainage have been paid on said property.

And finally, it is understood and agreed to, that the buildings and lot of ground situated on Dryades street and specified in the aforesaid report of the said arbitrators as being excluded
54 from this sale and transfer, is more particularly defined and described, as a certain lot of ground together with all the buildings and improvements thereon and all rights and privileges thereto belonging, situate in the first district of this city, in the square bounded by Dryades, Canal, Rampart and Common streets and measuring, in English measure, fifty-two feet front on Dryades street and forty-five feet in width in the rear by one hundred and five feet, six inches in depth; being the same property which the said Commercial Bank of New Orleans acquired by purchase from Mrs. Marion Jackson by an act passed before said late notary Hilary B. Cenas, on the second day of March, one thousand eight hundred and fifty-seven.

Thus done and passed in my office at New Orleans, aforesaid in the presence of Messrs. James Graham and George Cenas, witnesses

of lawful age, domiciliated in this city, who hereunto sign their names with the parties and me, the said notary on the day and year sey forth in the caption hereof after due reading of the foregoing.

(Original signed) FELIX LABATUT, *President.*
JOHN R. CONWAY, *Mayor.*
ANDREW HERO, JR., *Not. Pub.*

J. GRAHAM.
GEO. CENAS.

Approved.
HENRY J. LEOVY,
City Attorney.

Registered in Conveyance Office B. 96. Fos. 65, 66 & 67.
New Orleans, March 22nd, 1869.
P. G. LABARRE, *D'y Reg.*

55 A true copy of the original on file in my office.
New Orleans, January 28th, A. D. 1899.
ANDREW HERO, *Not. Pub.*

EXHIBIT "B." Annexed to and Made Part of Defendant's Answer.

Filed March 23rd, 1899.

UNITED STATES OF AMERICA,
State of Louisiana, Parish of Orleans,
City of New Orleans.

No. 117.

N. O., 9th Ap'l, 1878.

Transfer.

City of N. O.
to
N. O. Water Works Co.,
1. c. m. for adm'r fin'es,
1. c. m. for W. W. Co.,
1. c. m. for city att'y.

Be it known, that on this ninth day of the month of April in the year of our Lord one thousand eight hundred and seventy-eight and of the Independence of the United States of America the 102nd.

Before me, Gustave Le Gardeur, Jr., a notary public, duly commissioned and sworn in and for the parish and city aforesaid, therein residing and in the presence of the witnesses hereinafter named and undersigned.

Personally came and appeared the Honorable Edward Pilsbury, mayor of the city of New Orleans, herein duly authorized in the

full execution of these presents, under and by virtue of reso-
56 lution No. 4416 administration series adopted by the council of the city of New Orleans on the 20th day of March 1878, a certified copy of which said resolution is hereto annexed for reference.

And also came and appeared Edward Toby, Esquire, of this city, herein appearing, stipulating and acting for and in the name and on behalf and as president of the New Orleans Water Works Company, a corporation of this city, duly created by act No. 33 of the legislature of this State entitled:

"An act to enable the city of New Orleans to promote the public health and to afford greater surety against fire by the establishment of a corporation to be called the 'New Orleans Water Works Company;' to authorize the said company to issue bonds for the purpose of extending and improving the said works; and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water; to permit the holders of water works bonds to convert them into stock and to provide for the liquidation of the bonded and floating debt of the city of New Orleans." Approved March 31st, 1877 and amended by act No. 43 of the legislature of this State "An act relative to the 'charter of the New Orleans Water Works Company and amending an act number thirty-three of extra session of eighteen hundred and seventy-seven (1877).'" Approved February 20th, 1878. The said Edward Toby, herein acting as president aforesaid, and duly authorized in the full execution of these presents under and by virtue of a resolution adopted by the board of directors of the said New Orleans Water Works Company at their sitting of the 8th day of April 1878, a certified copy of which said resolution is hereto annexed for reference.

Which said appearers, in this respective capacity, severally declared and said.

57 That in compliance with the provisions and requirements of said act No. 33, approved March 31st, 1878 as amended by said act No. 43 approved February 20th, 1878, the said New Orleans Water Works Company has been duly organized.

That in accordance with the public notice given by the mayor, the subscribers to the capital stock of the said New Orleans Water Works Company have assembled together at the office of the Merchants' Mutual Insurance Company No. 104 Canal street, in this city, on the thirtieth day of March 1878 between the hours of 12 m. and 2 p. m., and that then and there, in compliance with the provisions of section 3 of said act No. 33, as amended by said act No. 43, they, the said subscribers, have elected the board of directors of the said New Orleans Water Works Company, as the whole will more fully appear by the procès verbal of the meeting of the said subscribers, a certified copy whereof is hereto annexed for reference.

That in conformity with the provisions of said act No. 33 creating the said company, it, the said New Orleans Water Works Company, has transferred and delivered to the city of New Orleans, as is hereby acknowledged by the said Mayor Pilsbury for and in the

name of the city of New Orleans, all the certificates for the shares of the stock of the said New Orleans Water Works Company amounting to twenty thousand shares of one hundred dollars each, forming the capital stock of two millions of dollars ($2,000,000.00) of said company.

That in further compliance with said act No. 33, approved March 31st, 1877, the stock thus transferred and delivered to the city of New Orleans, as aforesaid, has been disposed of by the said city in the manner following, to wit:

1°. Amount of stock full paid and not subject to assessment subscribed for by the city of New Orleans six hundred and six thousand, six hundred dollars	$606,600.00
2°. Amount issued to the city, in the proportion of one share of stock full paid and not subject to assessment for each and every one hundred dollars of water-works bonds funded in premium bonds, four hundred and fifty-one thousand four hundred dollars	451,400.00
3°. Amount issued to the city in the proportion of one share of stock full paid and not subject to assessment for each and every one hundred dollars of water-works bonds redeemed by the city one hundred and eleven thousand, five hundred dollars	111,500.00
4°. Amount exchanged by the city with the subscribers to the capital stock of the said New Orleans Water Works Company, in the proportion of one share of stock full paid and not subject to assessment, for each and every one hundred dollars of waters-works bonds surrendered by the said subscribers to the city, five hundred and one thousand six hundred dollars	501,600.00
5°. Amount reserved for the benefit of all holders of water-works bonds who may elect to subscribe to the capital stock of the said New Orleans Water Works Company to be exchanged by the city with the holders of said bonds in the proportion of one share of stock full paid and not subject to assessment for each and every one hundred dollars of said water works bonds surrendered to the city three hundred and twenty-eight thousand, nine hundred dollars	328,900.00
Total amount of stock transferred and delivered to the city, two millions of dollars	$2,000,000.00

Now therefore by virtue of the foregoing, and in consideration of the two millions of dollars of stock hereinabove transferred and delivered to the city, the receipt whereof is hereby acknowledged by

the said Mayor Pilsbury, he, the said Mayor Pilsbury, declared that by virtue of the authority in him vested by the aforesaid resolution No. 4416 administration series, and in compliance with section 4 of said act No. 33, approved March 31st 1877, creating the said New Orleans Water Works Company, he, the said mayor, does, by these presents, in his said capacity and for and in the name and on behalf of the city of New Orleans, grant, bargain, sell, convey, transfer, assign and set over with all legal warranties and with full subrogation to all the rights and actions of warranty, to which the city of New Orleans is or may be entitled against all proceeding vendors and owners unto the said New Orleans Water Works Company, the said Edward Toby *is* president aforesaid, accepting and purchasing for and in the name of the said New Orleans Water Works Company and acknowledging due delivery and possession thereof.

All and singular the property, real and personal, — whatever nature or kind soever, belonging to the water works, constructed and established by the Commercial Bank of New Orleans and
60 subsequently by the city of New Orleans and the dykes, mounds, reservoirs, machinery and apparatus, engines boilers, pumps, conduits, aqueducts, pipes, tools and all appurtenances thereunto belonging or in anywise appertaining.

And the following real estate, to wit:

1°. A certain square of ground together with the reservoirs, buildings, all other improvements thereon, and the rights, servitudes, ways, privileges and appurtenances thereunto belonging or in anywise appertaining, situate in the Faubourg Annunciation, in the first district of this city, designated by the No. 18 on a plan of said faubourg drawn by B. Lafon, surveyor, dated the fifteenth day of May, 1807; which said square is bounded by Religious, St. Thomas, formerly St. John the Baptist, Richard and Market streets, and it has a front on each of the said streets of three hundred feet. And by a sketch made by J. A. d'Hemicourt, city surveyor, dated the 5th day of April, 1878, and hereto annexed for reference, the said square is designated by the No. eighty-three and measures three hundred and nineteen feet, eight inches and two lines front on Religious street, three hundred and nineteen feet, ten inches and one line front on St. Thomas street, three hundred and nineteen feet, eleven inches and one line front on Market street, and three hundred and nineteen feet, ten inches and four lines front on Richard street.

2°. A certain piece or portion of ground together with all the buildings and improvements thereon, and the machinery and apparatus, boilers, engines, iron chimney, and all the rights, privileges, servitudes, ways and appurtenances thereunto belonging or in anywise appertaining, situated in the Suburbs Lacourse, in the first district of this city, in the square bounded by New Levee,
61 Tchoupitoulas, Richard and Orange streets and measuring one hundred and ninety-one feet, nine inches and six lines front on New Levee street, one hundred and ninety-one feet, nine inches and four lines front on Tchoupitoulas street, three hundred and sixty-three feet, seven inches and three lines front on Richard

street and three hundred and eighty-three feet, seven inches and three lines on a straight line running from the termination of the line on said New Levee street to the termination of the line on Tchoupitoulas street aforesaid, parallel to Orange street and dividing the said piece or portion of ground from the property now or formerly belonging to H. Caldwell and R. Toledano, which *from* the remainder of said square which is designated by the No. thirty-nine on the above-mentioned annexed sketch by J. A. d'Hemicourt, according to which said sketch, said piece or portion of ground measures one hundred and ninety-one feet, six inches and six lines front on New Levee street, one hundred and ninety-one feet, seven inches and six lines front on Tchoupitoulas, three hundred and eighty-three feet, seven inches, two lines front on Richard street, and three hundred and eighty-three feet and eight inches on said line dividing the said piece or portion of ground from the property of Caldwell and Toledano.

All of which said above-described property real and personal, was acquired by the city of New Orleans by purchase from the Commercial Bank of New Orleans, by act passed before Andrew Hero, Jr., a notary public in this city on the nineteenth day of January 1869.

3°. A certain square of ground, together with all the right-, ways, privileges and appurtenances thereunto belonging or in any-
62 wise appertaining, situate in the first district of this city, comprised between Peters (late New Levee), Water, Orange and Richard streets, and designated by the No. thirty-two A, as per plan drawn by Louis R. Pillié, surveyor dated the 29th of June, 1867 and deposited for reference in the office of H. C. Diffle, a notary public in this city, as plan No. 19 according to which said plan, said square is divided into twenty-eight lots numbered from one to twenty-eight inclusive, and they measure as follows, to wit:

Lot No. one forms the corner of Water and Richard streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width in the rear by one hundred and nine feet and four inches in depth and front on Richard street.

Lots Nos. two to eleven inclusive, adjoin each other and measure each twenty-six feet and seven inches front on Water street by one hundred and nine feet and four inches in depth between parallel lines.

Lot No. twelve forms the corner of Water and Orange streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width in the rear by one hundred and nine feet, and four inches in depth and front on Orange street.

Lots Nos. thirteen and fourteen adjoin each other and measure each twenty-seven feet front on Orange street by one hundred and fifty-nine feet, eight inches and four lines, more or less, in depth between parallel lines.

Lot No. fifteen forms the corner of Orange and Peters street- and

measures twenty-six feet, eight inches and six lines front on
63 Peters street, twenty-six feet, nine inches and four and a half lines in width in the rear by one hundred and nine feet and four inches in depth and front on Orange street.

Lots Nos. sixteen to twenty-five inclusive, adjoin each other and measures each twenty-six feet and seven inches front on Peters street by one hundred and nine feet and four inches in depth between parallel lines.

Lot No. twenty-six forms the corner of Peters and Richard streets and measures twenty-six feet, nine inches and five lines front on Peters street by one hundred and nine feet and four inches in depth and front on Richard street.

Lots Nos. twenty-seven and twenty-eight measure each twenty-seven feet front on Richard street by one hundred and fifty-nine feet, eight inches and four lines in depth between parallel lines.

And by the above-mentioned annexed sketch of J. A. d'Hemicourt, said square is designated by the No. 21 B, and measures three hundred and nineteen feet, four inches and four lines front on Water street, three hundred and nineteen feet, five inches and three lines front on Peters street, two hundred and seventy-two feet and eight inches front on Richard street and same front on Orange street.

And the said square of ground was acquired by the city of New Orleans from John H. O'Connor by act passed before Andrew Hero Jr., a notary public in this city, on the sixteenth day of July, 1872.

To have and to hold the herein-conveyed property unto the said New Orleans Water Works Company, its successors and assigns for-
ever by virtue of these presents, subject, however to the pro-
64 visions of section 17 of said act No. 33, approved March 31st, 1877, as amended by said act No. 43, approved February 20th, 1878.

By reference to the annexed certificate of the register of conveyances it does not appear that the herein-conveyed property had been heretofore alienated by the said vendor.

And now the said parties hereto declare that they do hereby dispense with the certificate of the record of mortgages and exonerate the undersigned notary from any and all responsibility for the non-production of said certificate.

Thus done and passed in New Orleans at my office, the day, month and year first above written, in the presence of Messrs. Armand Pitot Jr. and Edward Pitot competent witnesses, who have signed with the said parties and me notary, after reading the whole.

(Signed) E. PILSBURY, *Mayor.*
" EDWARD TOBY, *President.*
" G. LE GARDEUR, *Not. Pub.*

(Signed) EDW. PITOT.
" A. PITOT, JR.

Registered in Conveyance Book No. 110, folio No. 453.
New Orleans, April 9th, 1878.
(Signed) D. B. PENN, *R. C.*

I, the undersigned Peter Stifft, custodian of notarial records, do hereby certify that the above and foregoing is a true and correct copy of the original on file and of record in my office.

65 New Orleans, Jan. 30th, 1899.

(Signed) PETER STIFFT,
[SEAL.] *Custodian of Notarial Records.*

(Stamp.)

Office of Merchants' Mutual Ins. Co.

NEW ORLEANS, *March 30th*, 1878.

Hon. Ed. Pilsbury, mayor:

The undersigned appointed by you and selected by the stockholders of the New Orleans Water Works Co. to superintend the election of three directors by the stockholders, respectfully beg to report that said election was held this day and resulted as follows:

P. Fourchy received 3976, three thousand, nine hundred and seventy-six votes.

Edward Toby received 3829, three thousand, eight hundred and twenty-nine votes.

Pablo Sala received 3600, thirty-six hundred votes.

W. A. Bell received 397, three hundred and ninety-seven votes.

A. Brousseau received 147, one hundred and forty-seven votes.

Respectfully submitted and certified correct.

(Signed) WM. PEMBERTON,
Commissoners.

(Signed) J. E. CHANUT.
" A. MARQUEZ.

City council chamber, room No. 18, city hall.

NEW ORLEANS, *April 9th*, 1878.

66 (No. 4416, administration series.)

Be it ordained, That the mayor be and he is hereby authorized to transfer to the New Orleans Water Works Company the water works and all the property appurtenant thereto, so soon as the election of the board of directors shall have taken place, in accordance with section 4, act No. 33 legislature of Louisiana, approved thirty-first of March, 1877.

Adopted by the council of the city of New Orleans, March 26, 1878.

Yeas—Brown, Cavanac, Denis, Diamond, Edwards, McCaffery, Rengstorff.

(Signed) ED. PILSBURY, *Mayor.*

I hereby certify the above to be a true and correct copy of ordinance No. 4416, administration series, adopted by the council of the city of New Orleans.

March 26th, 1878.

(Signed) THOS. G. RAPIER,
Secretary City Council.

Meeting of the Board of Directors of the New Orleans Water Works Co.

NEW ORLEANS, *April 8th*, 1878.

Present: Messrs. Edward Toby, president, Paul Fourchy, Pablo Sala, W. W. Washburn, Archibald Mitchell, Joseph Bayle and E. A. Palfrey.

On motion of Mr. Paul Fourchy, properly seconded, the president was authorized to sign the transfer of the water works by the
67 city.

I hereby certify that the foregoing is a true and correct extract of the minutes of the company.

(Signed) ALEX. BONNEVAL, *Secretary.*

New Orleans, April 9th, 1878.

68 EXHIBIT "C." Annexed to and Made Part of Defendant's Answer.

Filed March 23rd, 1900.

UNITED STATES OF AMERICA,
State of Louisiana, Parish of Orleans, City of New Orleans.

Be it known, that on this third day of the month of October, in the year of our Lord, one thousand eight hundred and eighty-four, and of the Independence of the United States of America, the one hundred and ninth,

Before me, Joseph Dewey Taylor, a notary public in and for the parish of Orleans, State of Louisiana, duly commissioned and qualified, and official notary of the city of New Orleans, and in the presence of the witnesses hereinafter named and undersigned—

Personally came and appeared the Honorable Joseph Valsin Guillotte, mayor of the city of New Orleans, herein acting in his official capacity as mayor aforesaid, being herein and hereunto specially authorized and empowered by ordinance number 909, council series, adopted by the council of the city of New Orleans on the 23d day of September, A. D. 1884, a duly certified copy of which ordinance is hereto annexed and made part hereof.

Also came and appeared Mr. Albert Baldwin, president of and herein representing the New Orleans Water Works Company, being herein and hereunto specially authorized and empowered by a resolution of the board of directors of said water works company, passed at a meeting of said board held in the city of New Orleans on the 27th day of September A. D. 1884, a certified copy of which resolution is hereto annexed and made part hereof.

Whereupon, said Albert Baldwin, in his said capacity as president, declared and does hereby declare that he accepts all and singular the terms, conditions, provisions, obligations, rights, benefits and advantages set forth and contained in said ordinance No. 909,

adopted by the council of the city of New Orleans, on the 23d day of September, A. D. 1884, and approved by mayor on the 26th day of September, A. D. 1884, thereupon duly promulgated, and which said ordinance, so accepted by said Baldwin, president, — in the words and figures following, to wit:

An ordinance to carry out act No. 56 of the acts of 1884, providing for a future water supply from the New Orleans Water Works Company to and for the city of New Orleans and certain institutions, and regulating the use of water and the payment therefor.

Whereas, the city of New Orleans has been, and is, and will be unable to allow the New Orleans Water Works Company the fifty years' exemption from taxation, being the consideration for a free supply of water, contemplated by section 11 of act No. 33, of the acts of 1877; and *and* the courts having decided that the exemption from municipal taxation granted in said act, is not, and shall not be enjoyed, and therefore, as is also decided, that the city must pay for the water supplied by said company; and

Whereas, it is best to arrange for a fixed annual price for said water supply, rather than leave the city liable to an annual demand, the amount of which cannot be known in advance, and from which the city cannot be relieved, but is specially authorized and required to provide for the payment therefor; and

Whereas, the said New Orleans Water Works Company is willing to accept terms, arranging for a sum to be determined in advance of each year, and which amount can be readily and equitably fixed, according to a mode adopted in other cities, by reference to the number of fire-hydrants, fire-plugs or fire-wells, now numbering eleven hundred and thirty-nine (1139) in this city; therefore,

SECTION 1. Be it ordained by the city council of the city of New Orleans, That during the term of the charter of the New Orleans Water Works Company, beginning with the year 1885, the
69 supply of water for which this ordinance provides, shall be furnished by the said company, from the pipes and plugs of said company, now laid or hereafter to be laid, for the following purposes, to wit: For the extinguishment of fires and the cleansing of the gutters; for the use of all existing public buildings, public markets, public squares and places, public schools and the public charitable institutions supported and to be established and supported by the State or city, and now supplied by the said company; it shall be the duty of said company to keep and maintain a head or pressure of water of not less than fifty feet head, between these hours of seven a. m. and six p. m.; and the reservoir supply at night and between the — hours shall be of such abundance as amply to cover the needs of the fire department for extinguishing fires; and said company shall make such provision as may be necessary to reinforce or supplement said reservoir supply in case of need or accident. In consideration for said supply the city of New Orleans shall pay, during the term of said company's charter to the said New

Orleans Water Works Company sixty ($60) dollars per annum for each and every fire-plug, fire-hydrant and fire-well connected with the mains or pipes of said company, of which said fire-plugs, fire-hydrants and fire-wells there are now eleven hundred and thirty-nine (1139), which number shall be the least number of the annual sum to be paid to said company, and for every additional hydrant, fire-plug or fire-well exceeding said number, hereafter attached to said pipes or mains, the city shall pay an additional sixty ($60) dollars per annum.

SEC. 2. Be it further ordained, etc., That the city of New Orleans shall have the power in time of drouth to furnish water to such persons as may live outside the lines (of) the pipes of said water works company free from all charges by the same, and shall have further power by ordinance duly passed and notified in writing to said company, before each annual appropriation for said supply, to decrease or increase the number of fire-plugs, fire-hydrants and fire-wells for the ensuing year, all such ordinances to designate the locations for the new attachments or intended cut-offs; provided, however, that the number of said fire-hydrants, fire-plugs, and fire-wells be not reduced below eleven hundred and thirty-nine (1139), the intent thereof being that the annual price to be paid for said water supply shall never be less than as fixed herein, by reference to the now existing number of said fire-plugs, fire-hydrants and fire-wells; but the city expressly reserves the power to change the location of any and all of said fire plugs, hydrants or wells whenever the council shall deem it necessary, said changes to be at the cost of the company.

SEC. 3. Be it further ordained, etc., That the city of New Orleans shall annually set apart, appropriate and provide in its annual budgets of expenditures and receipts, beginning with those for the year 1885, and in all successive budgets for each year successively, a sum sufficient to pay for said annual water supply, as fixed in the foregoing sections of this ordinance; and that said annual sum or price shall be paid to said New Orleans Water Works Company, in twelve equal and monthly installments, one on the last day of each consecutive month, beginning in the month of January, 1885, for the year 1885; and beginning also in the month of January in each year thereafter, and in event of prompt cash payments of said installments during each year, the city of New Orleans shall be entitled to deduct and retain from the last installment in each year six per centum of the entire amount paid and payable to the said company in and for said year; but should any installments be unpaid when due, it shall bear interest at the rate of eight per centum per annum, from the end of the month in which it was payable, until finally paid.

SEC. 4. Be it further ordained, etc., That it is hereby made the duty of the comptroller or auditing officer, and of the treasurer of said city of New Orleans, carefully to set apart and keep, as a distinct fund, the moneys or collections which shall have been appropriated in each year, pursuant to this ordinance, and such proportion of all collections of the revenue as shall have been appropriated

in the budgets to and for said company, or the said water supply for each year shall be carefully and exactly set apart by said officers, as collected, and shall be warranted for by said comptroller and paid by said treasurer to said company, during each month, without further direction, ordinance or authority than that hereby given.

SEC. 5. Be it further ordained, etc., That the New Orleans Water Works Company shall have the right to inspect and to examine into the use of water to be supplied under this ordinance, and the city of New Orleans and its officers shall see that no water is taken or used except for the purpose aforesaid, and that there shall be no waste nor more water taken and used, than may be actually necessary for the purposes aforesaid; and to this end the city of New Orleans shall adopt all proper measures or ordinances to prevent waste and to prevent any use of water except for the purposes herein designated; and it is hereby made the duty of the officers of said city, and of those of any and all public buildings, and public institutions, and of all persons using water under this ordinance, to prevent waste and to prevent the use of such water except for the actual need for the purposes aforesaid.

SEC. 6. Be it further ordained, etc., That the mayor be and is hereby authorized and directed to execute a contract by notarial act, to and with said company, embodying and carrying out the provisions of this ordinance.

SEC. 7. Be it further ordained, etc., That all ordinances or parts of ordinances, inconsistent or in conflict with this ordinance, be and the same are hereby repealed.

Adopted by the council of the city of New Orleans, September 23d, 1884.

M. McNAMARA,
Clerk of Council.

Approved September 26th, 1884.
J. V. GUILLOTTE, *Mayor*

A true copy:
TH. BUISSON,
Secretary to the Mayor.

And said Joseph Valsin Guillotte, mayor, and said Albert Baldwin, president, having each read and declared himself fully cognizant of the contents of said ordinance, do severally declare that they do hereby contract, engage and agree, one with the other, according to the terms, provisions, conditions and language of said ordinance, all and singular of which said terms, conditions, provisions and language shall be and is hereby made a contract engagement and agreement between said parties, The City of New Orleans and the New Orleans Water Works Company; to be observed and carried out and held and maintained inviolate during the entire term and existence of the said New Orleans Water Works Company, its assigns or successors as now fixed in the charter of said company, being a period of fifty years from the incorporation of said company.

The said Albert Baldwin, as president aforesaid, engages to furnish and supply water from the pipes of said company in the manner, at the times, and for all purposes and objects as set forth in and pursuant to the provisions and requirements of the said ordinance No. 909, council series, to furnish or supply water to and for the public places, buildings and institutions, as in and by said ordinance required; to allow the city of New Orleans in time of drouth, said state or condition of drouth to be decided by the board of this company and the city council, to furnish water to such persons as may live outside the lines of the pipes of the said company for the needs of said persons, without waste and by such means of transportation by carts, wagons, barrels or like appliances as said city may provide and furnish, all pursuant to the intent and purpose of sections second and fifth of said ordinance; to observe and obey any ordidance duly notified to said company directing the increase of the number of fire-plugs, fire-hydrants and fire-wells or the decrease thereof, provided said decrease be and not below eleven hundred and thirty-nine (1139) in number, all according to section third of said ordinance; and further he engages and contracts, as president aforesaid, to do, perform and give and to observe, carry out and fulfill all things required of said company by or in said ordinance.

In consideration whereof, said Joseph Valsin Guillotte, mayor, aforesaid, engages snd contracts to pay unto said company, annually, the sum of *sixty* (*$60*) *dollars* for each and every fire-plug fire-hydrant and fire-well connected with the mains or pipes of said company, of which there are now *eleven hundred and thirty-nine* (*1139*), and which number shall ever be the least measure of the annual sum to be paid said company; to pay said company annually, *sixty* (*$60*) *dollars* for every additional hydrant, fire-well or fire-plug exceeding said number of eleven hundred and thirty-nine (1139), and hereafter attached to said mains or pipes; to notify said company in writing of all decrease or increase required, of said fire hydrants or wells; to make promptly, fully and specially, the annual appropriations and monthly payments as required by and in section three of said ordinance, the city to deduct or retain from the last monthly payment in each year six per centum of each annual sum paid and to be paid said company as provided in said section three; to hold and set apart and keep as a distinct fund, the moneys or collections as required by said ordinance, and upon request or demand of said company on the last day of each month in any year, the comptroller of the city shall warrant on the treasurer for, and the treasurer shall pay from said moneys or collec-
71 tions, the installments which at that time shall be due, without other authority or ordinance than said ordinance; and the comptroller or auditing officer and the treasurer of the city shall faithfully carry out and promptly obey all the requirements and provisions of the fourth section of said ordinance, and shall raise no obstacle nor impose any delay in obeying the same; and it shall be the duty of each, in his respective department, to keep all money and collections appropriated under said ordinance and this

contract, as separate from all other moneys, and as a distinct fund: all pursuant to and in accordance with said section four.

The said company shall have the right to inspect and to examine into and concerning the use of water supplied by it, and none of said water shall be wasted or used otherwise than for the purposes named in said ordinance and to the extent of the actual need for said purposes, all as provided in section five of said ordinance: and to this end the officers and persons designated in said section five and the city of New Orleans shall do, perform and abstain from doing the things set forth in said section five of said ordinance.

Further, it is agreed, understood and stated by and between the said parties, that the specification or detailing in this instrument of the several rights, duties, obligations and things to be done, performed, observed, carried out or abstained from respectively, does not and shall not limit, modify or in any manner take from the effect of any of the terms, conditions, provisions or expressions of said ordinance, all of which are, by these presents, accepted and made binding, effective and operative upon and between the said New Orleans Water Works Company and the city of New Orleans, their assigns or successors, for and during the term named in the charter of said company.

Thus done and passed in my office in the city of New Orleans, aforesaid, the day, month and year aforesaid, in the presence of Charles G. Rebentisch and George R. Goetz, witnesses of lawful age, residing in this parish, who have signed their names with said parties and me, notary, after due reading of the whole.

(Original signed) J. V. GUILLOTTE, *Mayor.*
ALBERT BALDWIN,
President of the New Orleans Water Works Company.
C. G. REBENTISCH.
GEO. B. GOETZ.
J. D. TAYLOR,
Notary Public.

A true copy of the original.
New Orleans, October 14th, 1886.

J. D. TAYLOR,
Notary Public.

[L. S.]

72 *Petition of Intervention of Board of Liquidation of the City Debt.*

Filed April 5th, 1899.

Civil District Court.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

To the honorable the judges of the civil district court in and for the parish of Orleans:

The petition of intervention of the Board of Liquidation of the City Debt, a body corporate, created by the act of the General Assembly No. 183 of 1880, and by the act of the General Assembly No. 110 of 1890, amendatory of the first-mentioned act, duly organized, exercising the powers and performing the duties conferred and prescribed by the said acts, and the act of the General Assembly No. 67 of 1884, respectfully shows:

That it has an interest in this suit, by reason of which it desires to and does unite with the defendant in resisting the claims of plaintiff.

That by section 2 of the said act of 1880 your petitioner is given exclusive control and direction of all matters relating to the bonded debt of the city of New Orleans; that by section 5 of said act it was made the duty of the authorities of the city of New Orleans, as soon as possible after the organization of petitioner, to turn over and transfer to it all of the property of the city of New Orleans, both real and personal not dedicated to public use, and by said section your petitioner was empowered and authorized to dispose of said property on such terms and conditions as might be deemed favorable, the proceeds of said sale or sales to be deposited with the fiscal agent of the board, at the credit of the "city debt fund;" that by section 8 of said act petitioner is directed to use the proceeds of the sale of all the assets in its possession, under the
73 provisions of said act, and after paying the interest coupons of the bonds issued under the same, to use the surplus for the purchase and retirement of any valid bonds of the city of New Orleans, at a rate not exceeding fifty cents on the dollar, or at the discretion of the board, for the retirement of the bonds created by said act.

That no bonds were issued under the said act No. 133 of 1880, for causes irrelevant to the issue involved in this suit, but by the act of the General Assembly No. 58 of 1882, the city of New Orleans, through your petitioner, was authorized and empowered to extend its bonded indebtedness, other than premium bonds, outstanding at the passage and promulgation of the said act, for a period of forty years from January first, 1883, and at a rate of in-

terest not exceeding 6%, provided that the city should have the right to call in said bonds so renewed or extended for payment, at par, after the year 1895, upon giving notice to that effect, during a period of three months; that under the power and authority granted by said act of 1882, the city, through your petitioner, took up and retired, by exchange for the bonds authorized by said act, outstanding bonds of the said city, other than premium bonds, to the amount of $3,259,000.00, by the issuance and exchange therefor of the same amount of six per cent. bonds authorized by said act; and for the payment of said bonds, the "city debt fund" mentioned and referred to in section 5 of the act of 1880 was specially set apart and dedicated exclusively; that the proceeds of all the property turned over and delivered to your petitioner, under said section 5 of the act of 1880, were part of said "city debt fund."

That by section 3 of the act of the General Assembly No. 67 of 1884, section 5 of the said act of 1880 was amended and re-enacted,
in words and figures, which repeated the direction of said
74 authorities to turn over and deliver to your petitioner, immediately after the passage of the act, all property of the city, real and personal, not dedicated to public use, which was followed by the direction to dispose of the same, and apply the proceeds to the retirement of the bonds authorized by the act of 1882, and the payment of the interest thereon, provided that the tax authorized by section 11 of act 133 of 1880 should not be levied; that such tax never was levied. That from this direction to sell and dispose was specially excepted by section 5 stock held in corporations, of which class of property the city of New Orleans then was the owner of 3925 shares of the capital stock of the New Orleans Water Works Company, and no other.

That by section 1 of said act 67 of 1884, section 2 of the said act of 1880 was amended and re-enacted, so as to repeat the incorporation of your petitioner, and its exclusive control and direction of all matters relating not only to the bonded debt, but also the judgment debt of the city of New Orleans, and provided for the issue of bonds for the retirement, by the proceeds of sale, or the exchange thereof, of the entire debt of the city of New Orleans, in the form of executory judgments, registered under the provisions of act No. 5 of 1870, then or thereafter to be rendered upon floating-debt claims created in the year 1878, or any previous years.

That the city having failed to comply with section 5 of the act of 1880, in its original form, and as amended by section 3 of the act of 1884, to transfer, turn over and deliver to your petitioner its said shares of stock, your petitioner proceeded by mandamus in this court to compel the performance of the duty enjoined upon said city as aforesaid; that the said mandamus was made peremptory, by judgment of this court, which commanded the city to transfer, deliver and turn over to your petitioner the said shares of stock, which
said judgment, on appeal by the city of New Orleans to the
75 supreme court, was affirmed; see 36 An. 524.

The New Orleans Water Works Company having resisted

the transfer of the said shares of stock to your petitioner, and refused to pay it the dividends, your petitioner subsequently instituted a suit in this court against the said company, to compel the transfer of said stock and the payment of the dividends thereon, to it, and having obtained judgment, recognizing the rights it claimed, and the water works company, although the city joined as a codefendant in said suit, and acquiesced in the judgment therein rendered in favor of your petitioner, carried the case by appeal to the supreme court which affirmed the judgment of this court; see 39 An. p. 202.

That the right of your petitioner to the said stock, to be used for the purpose of paying the interest and principal of the bond obligations of the city of New Orleans under the statutes named, was thus twice recognized and affirmed by the supreme court of the State.

That by joint resolution of the General Assemby of 1890 and amendment, looking to the retirement of the entire outstanding bonded debt of the city of New Orleans, evidenced otherwise and by premium bonds, and the judgment debt fundable or payable under act No. 67 of 1884, was proposed, and act No. 110 of 1890 adopted, to carry into effect, if the amendment itself was adopted by the people at the general election held in the year 1892; that said amendment was so then and there adopted, and in consequence said act 110 of 1890 went into full operation and effect; that by sec. 11 of said act, your petitioner, as constituted at the date of the said act, to wit, July 8th, 1890, was created a body corporate, with right of existence and succession, until January 1st, 1903, and all provisions of then existing laws prescribing any duty, or conferring any power or function upon your petitioner, as well as all its
76 rights to assets and property of the city, not dedicated to public use, were maintained and confirmed in full force.

That ever since the said act No. 67 of 1884 went into effect, by section 5 of which your petitioner was deprived of any power to sell or dispose of the said shares of capital stock, the dividends have been applied to meeting the semi-annual interest of outstanding bonds of the city of New Orleans.

That there is now immediate, pressing, and absolutely, necessary use and requirement for the said dividends, which are and will be used in meeting the semi-annual interest upon the floating-debt bonds of the city of New Orleans, issued under the provisions of article 313 of the constitution of 1898; that said bonds authorized by said article, to the extent of $250,000 have been issued in the payment and retirement of floating indebtedness of the city of New Orleans, incurred for general and ordinary municipal purposes, during the years from 1879 to 1895, inclusive; that the surplus revenues of those years, which the said article directed the city of New Orleans to turn over and deliver to your petitioner, for the purpose of meeting the semi-annual interest upon said bonds, is entirely insufficient to accomplish that purpose; in point of fact, the amount realized from the fund, up to the present time, being

much less than the sum required to pay the first accruing semi-annual interest upon the said bonds, due and payable April 1st 1899; that the provisions of said article 313, to the effect that your petitioner, in the event that the said surplus revenues should not suffice, should sell whatever number might be required of constitutional bonds of the city of New Orleans, issued under said act 110 of 1890, and the said constitutional amendment, to provide for the principal and interest of said bonds, are unconstitutional, null, void, and of no effect, in that they are in violation of section 10 of article 1, and the 14th amendment of the Constitution of the United States, and hence, that your petitioner is without power and
77 authority to do as is directed in this regard by said article 313, the same, in the respect mentioned, being violative of the rights of the holders of premium bonds, of said constitutional bonds, of bonds issued by the drainage commission of the city of New Orleans, and contractors under the same, created by act No. — of 1896, in its original form, and as amended by act No. — of 1898, and other parties whose rights are protected by the contract evidenced by the said constitutional amendment of 1892, and the said act 110 of 1890, for the reason that by said amendment and act, *as* specially section 3 of the latter, neither said constitutional bonds, nor the proceeds thereof, can be used for any purpose other than those specified by said amendment and act, in which the use and purpose of the said bonds prescribed in said article 313 of the constitution of 1898 is not included; that our petitioner, for this reason, will at no time issue or sell any of said constitution bonds, as directed by, and for the purposes named in said article 313.

That besides the dividends on said water-works stock, there are no other funds now, or hereafter, to come into the possession of your petitioner, under existing laws, and existing at the date of the adoption of the constitution of 1898, which could be lawfully used for the purpose of meeting the interest on said floating-debt bonds.

That your petitioner, by the laws of its creation, and those governing its action, is a trustee for every holder of a bond or bonds of the city of New Orleans, and as such, the guardian of their rights, among which are to preserve and protect its possession and administration of all property committed to its care, and dedicated and set apart by law for the payment of the interest and principal of the said bonds; that the said shares of the capital stock of the said company are held by it in trust for the purposes for which
78 they are by law placed in the possession of your petitioner, and its *cestui que trust* are entitled by law to the dividends produced by said shares of stock and it is the duty of petitioner to preserve and protect the same by all lawful means; that if the charter of the said New Orleans Water Works Company be forfeited, by the judgment plaintiff seeks in this case, it will at once put an end to all revenue-producing power of said shares of stock, and will greatly, if not entirely, destroy their value.

That petitioner further shows, that this suit is wholly unfounded, both as to the facts and law relied upon to maintain it; and to each

and all of the allegations contained in plaintiff's petition, your petitioner pleads the general issue; and — further answer to the said petition, it specially sets up and pleads the following defenses:

First. That the duty of the said company, as to the kind and extent of the water to be supplied by it, is to furnish water in such condition as it is found in the Mississippi river, which by authority of section 5 of act 33 of 1877, is its source of supply, and the company has sufficiently discharged its duty, if the water so furnished is of such degree of purity as it is found in the said river.

Second. That the company has at all times supplied a sufficient quantity of water for the extinguishing of fires, and the washing of yards, alleys and streets, and the inhabitants of the said city, which water possessed a degree of purity, and was in such condition otherwise, as was in accordance with every requirement of its duty, and the law.

Third. That the requirements of its charter, that within twelve months after its organization in March 1888, it should proceed to the erection of new works and pipes, sufficient in capacity to furnish a full and adequate supply of water, to be drawn from the Mississippi river, or elsewhere, as it might deem expedient,
79 was not intended to mean, nor did it mean, anything more than that the company should supply new works and pipes, in its then existing system when needed; that the direction of section 13 of the said act of 1877 was fully complied with; that any extension of the works of the company, beyond the territory reach by its extension at the date of the adoption of the said act, to wit, March 31st, 1877, was required only on condition that the wants of the population should require the same, and that the estimated revenue on the cost of such extension should be equal to ten per cent. per annum; that by the said act there is no authority established over the said company, to determine as against its judgment to the contrary, that the wants of the population demanded such extension, and that it is the sole judge of the same; that at no time have the said wants required such extension, nor at any time have the same produced a revenue of ten per cent. per annum upon the cost thereof; that no demand has ever been made upon the company, by any person or authority having the right to make such demand, or by any person or authority, that such extension be made; that in any event, the company is the sole judge of the necessity or expediency of such extension, and that in its judgment the same is not and has not been at any time either necessary or expedient.

Fourth. That as a matter of fact, the supply of water furnished by the said company has at no time been inadequate for the extinguishing of fires, but, if the averments of the petitioner were true in this regard, the extent of the company's duty in this respect is prescribed by section 11 of the said act of 1877, by its provision that the company shall place free of any charge whatever two hydrants of the most improved construction in front of each square where a pipe shall be laid at a suitable distance from each other from which a sufficient quantity of water might be drawn for the

extinguishing of fires, watering the streets, cleansing the
80 gutters and other public purposes; the quantity of water to be thus supplied is fixed by section 11, under which the said company has fully discharged its duty, and performed whatever obligation in this respect may be fixed by law.

Fifth. That the said company has never at any time charged for the use of water more than the rates fixed by law; and petitioner expressly denies that the company was confined to the rates fixed at any time by any ordinance of the council of the city of New Orleans; it is expressly denied that the company has at any time illegally exacted or collected greater rates than it had the legal right to charge, or that it any time withheld facilities or opportunities from any person for the drawing of water from its pipes; that it has impartially enforced and collected, indiscriminately, from all consumers of water, no more than the legal rates for the use of the same.

Sixth. Petitioner expressly denies that the company has declared or payed any dividend upon its stock except out of net profits earned, or without having payed and discharged all expenses of operation, and all disbursements for certain extensions of and repairs to its mains, pipes and other works; that it borrowed no money on anticipated revenues, to pay dividends.

Seventh. That it has fully complied with its contract with the city of New Orleans, of October 3rd, 1884, and it is expressly denied that it violated or disregarded the said contract in the respect charged by the plaintiff's petition.

Eighth. That the affairs of said company have been prudently and carefully administered; that its expenditures for labor, machinery, materials, coal and other supplies have been purchased and paid for at prices at all times as low as the same could be obtained; that it has not crippled itself, or rendered itself unable to fulfill any of the duties imposed upon it by law, but, on the
81 contrary, it is fully able to perform the same, having abundant resources for that purpose, and that it will continue so to do, during its corporate existence.

Ninth. Petitioner further shows, that act 56 of 1884 was not in any sense a renewal, alteration or amendment of the charter of the New Orleans Water Works Company, nor was it in any sense a law for the benefit of the said corporation, in the sense of article 234 of the constitution of the State of Louisiana of 1879, nor in any other sense, but was adopted by the General Assembly to meet the urgent public necessity therefor, which was a consequence of the decision of the supreme court of the State in the case of The City of New Orleans *vs.* Water Works Company, No. 9,007 of its docket, 36 An. p. 433, *et seq.*, by effect of which, the exemption of the company from taxation, and the accompanying use of water by the city free of charge, became null and void, or inoperative; that said act of 1884 was a law conferring power on the city of New Orleans to make the contract therein described, and to provide a supply of water to the city by said company, in case of municipal taxation thereof, and to authorize provision for the payment therefor; that the said law was

enacted from causes solely due to the successful attempt of the city of New Orleans to disregard the company's charter, exemption from taxation, and under the belief that it was necessary to give the city power to contract for the supply of water; that the said statute in no event, by any fair or proper interpretation thereof, has the effect of subjecting the said company to the provisions of the constitution of 1879, to any greater extent than it was so subjected prior to the adoption of the said statute, and especially did not and could not make the company amenable to articles 46, 248 and 258 of the said constitution.

Tenth. Further answering petitioner further specially denies that the company, illegally or otherwise, sold or issued its own stock at thirty-three dollars per share, in violation of its charter, and
82 it expressly denies that if the company had so done, at the time and in the manner and form, as charged, in the petition, it would be a violation of its charter.

Eleventh. Further answering petitioner expressly denies the averments of fact contained in the twelfth paragraph of plaintiff's petition, and further avers that if the averments of fact contained in the same were true, petitioner expressly denies that the legal effect thereof was to furnish a ground for the forfeiture of its charter.

Petitioner further shows that it denies every allegation of fact contained in the said petition which might not be included in or covered by the special denials hereinbefore named, the said special denials not being intended as admissions of any averment of fact in the petition contained which is not denied specially, but on the contrary demands that the plaintiff be required in each instance to furnish strict proof of its allegation, if that or any other proof can be made by plaintiff, and in any event it denies and puts at issue all conclusions of law which the plaintiff draws from the facts stated in its petition or from any other fact which may be proved by evidence on the trial hereof.

Petitioner further shows that by the said act No. 56 of 1884, particularly the preamble, and sections one, four and five of the same, the State has full- and unequivocally recognized the corporate existance of said company and constitutes a waiver by the State of all causes upon which the forfeiture of the charter of the said company could be grounded, and if any such ever existed, which is denied, the same by said act have been condoned and renounced by the State.

Petitioner adopts in its own behalf and makes a part of this petition to the same extent as though the same were incorporated herein all the grounds and defenses set up by the said company herein, in resistance to the demand of plaintiff;

Wherefore, petitioner prays that this petition of intervention be filed and both plaintiff and defendant be duly cited to
83 answer the same, in accordance with law and after due proceedings, there be judgment rejecting the plaintiff's demand and dismissing its suit, and for costs, and for general relief.

(Signed) BRANCH K. MILLER,
Attorney for Petitioner.

Service accepted and citation waived:
April 5, '99.
(Signed) M. J. CUNNINGHAM,
Att'y Gen'l, for Pl'ff.

J. R. BECKWITH,
Att'y for N. O. Water Works, Def't.

Order.

Let the within petition be filed as prayed for according to law.
New Orleans, April 5th, 1899.
(Signed) GEO. H. THEARD, *Judge.*

To be Reassigned.

Extract of Minutes, Division "E."

MONDAY, *April 10th*, 1899.

Present: The Honorable George H. Theard judge.
The following case was ordered continued to be reassigned:

STATE OF LOUISIANA
vs.
N. O. WATER WORKS Co. } No. 58345.

84 *Petition of Intervention of the City of New Orleans, Order of Court Thereon, and Document Annexed as Part Thereof.*

Filed May 18th, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

To the honorable the civil district court for the parish of Orleans:

The petition of the city of New Orleans, appearing herein through its mayor, Walter C. Flower, with respect shows:

In accordance with ordinance No. 15284, C. S., approved May 3rd 1899, certified copy is hereto annexed and made part hereof, it is the desire of the city of New Orleans to intervene in this proceeding, and join the plaintiff herein,

Petitioner therefore begs leave to intervene, and in intervening reiterates all and singular the allegations of the petition filed by the plaintiff herein, and makes the same her own.

Wherefore petitioner prays that she be allowed to intervene herein, and that the defendant be duly cited according to law, and that after

due proceedings had there be judgment as prayed for herein, in the original petition filed by the State of Louisiana herein.

And for all general relief.

(Signed) SAM'L L. GILMORE,
City Attorney.
JAMES J. McLOUGHLIN,
Ass't City Att'y.

Service accepted:
B. R. FORMAN,
Of Counsel for State of La.

85 (*Order.*)

Let the within intervention be filed as prayed for.
New Orleans, May 18th 1899.
(Signed) GEO. H. THEARD, *Judge.*

Document Annexed to and Made Part of City's Petition.

Mayoralty of New Orleans—W. C. Flower, mayor—City hall.

MAYORALTY OF NEW ORLEANS,
CITY HALL, *May* 3*rd*, 1899.

Calendar No. 2139.

No. 15284, council series.

Be it ordained by the council of the city of New Orleans, That the city attorney be and he is hereby instructed to intervene on behalf of the city of New Orleans in the case of The State of Louisiana *vs.* New Orleans Water Works Company, now pending in the civil district court for the parish of Orleans, and to join with the plaintiff therein.

Adopted by the council of the city of New Orleans May 2, 1899.
W. R. BRASHEAR,
Clerk of Council.

Approved May 3, 1899.
A true copy:
W. C. FLOWER, *Mayor.*

J. S. WATERMAN,
Secretary to the Mayor.

I hereby certify that the above is a true and correct copy of the original ordinance No. 15284 council series on file in mayor's office.

(Signed) J. S. WATERMAN,
[CITY'S SEAL.] *Secretary to the Mayor.*

New Orleans, La. May 11th, 1899.

86 *Exception of New Orleans Water Works Co. to City's Intervention.*

Filed May 29th, 1899.

Civil District Court for the Parish of Orleans, Division E.

THE STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Exception to intervention of City of New Orleans.

And now comes the said defendant, The New Orleans Water Works Company by its undersigned attorneys, and peremptorily excepts to the intervention of the City of New Orleans in this cause joining The State of Louisiana, plaintiff herein, and for grounds of exception, amongst other causes manifest on the face of the record, saith:

I.

That proceedings for the forfeiture of the charter and franchises of corporations granted by the State must be instituted and prosecuted by the State to the exclusion of all other parties and persons, and the city of New Orleans discloses in its petition herein no right or authority to intermeddle therein in behalf of The State of Louisiana, as plaintiff herein, even if the record did not disclose other and sufficient reasons in law against any right of said city of New Orleans to intervene in aid of the State.

II.

That, if under any possible conditions, the city of New Orleans could lawfully intervene in aid of the State, as the law and the record in this cause now stands, the city of New Orleans is by law and good conscience and public policy prohibited from such intervention in this cause for following reasons, amongst others, to wit:

It appears from the record herein and matters of which the court must take judicial notice, that, if any of the matters set forth in the petition herein as alleged causes and grounds of forfeiture of defendant's charter and franchises are true and sufficient in law to warrant the forfeiture prayed for by the State (which defendant at all times denies), then and in that case, the city of New Orleans having exercised the right of administration of the affairs of the defendant corporation to the extent of three-sevenths ($\frac{3}{7}$) of the entire board of directors of defendant corporation, and was to the extent of its said control and representation an actor in, and perpetrator of all of the alleged acts and averred wrongs complained of by the State of Louisiana in its petition herein sought to be adopted by said intervenor, and cannot in law be permitted to seek or demand in the courts relief

of any kind, whether direct or indirect, predicated on alleged wrongs in the commission of which it participated and holds any share of profits alleged to have accrued from the alleged unlawful acts charged against the defendant corporation in the petition of the State herein formally adopted by said intervenor.

87 And because it appears from the record herein that the city of New Orleans was the original and sole owner of all of the shares of the capital stock of the New Orleans Water Works Company at the time of its organization as a corporation, the entire twenty thousand shares of said stock having been delivered to the city of New Orleans in full title and ownership and therefore there is not a single share of said capital stock in the hands or ownership of shareholders other than the city of New Orleans, the title whereof did not come from the city of New Orleans by sale thereof by said city with full warranty of title, possession and property therein in the vendees or assignees thereof in all things binding on the city of New Orleans in favor of all owners and holders of shares of the said capital stock; wherefore the city of New Orleans is both in good conscience and law, estopped from any attempt either to destroy said property, impair the value or dispossess the owner thereof by this or any other proceeding in the courts.

III.

That, for the reasons above stated and the law, the said city of New Orleans is without lawful right or authority to appear herein by intervention joining the plaintiff herein in matter and form as attempted herein, but is in all things, both in law and good conscience, prohibited therefrom.

Said defendant prays that its said exception, above pleaded, may be sustained and the intervention of the City of New Orleans be dismissed with costs.

And for further exception herein, said defendant saith that the fact is that at the days and dates named in said petition of the State of Louisiana herein sought to be adopted by the city of New Orleans in its said petition of intervention herein, at the date of the institution of this action by the State, at the date of the filing of said petition of intervention, and at all times since that date, the city of New Orleans has been and still as a municipal corporation is the owner and holder of a large number of the shares of the capital stock of the defendant corporation, the said New Orleans Water Works Company, never at any time less than thirty-nine hundred and twenty-seven shares thereof, and has at all times participated in the management of the affairs of said corporation to the extent of three-sevenths of all of the capital stock thereof, and also in the benefits, dividends and profits thereof to the extent of its actual holding of shares therein, and is in law in all things estopped from assailing or attacking the defendant corporation or the rights or property of its co-shareholders of the capital stock of said defendant corporation by or through said intervention or by any other form of action by reason of any matters alleged in said

petition of the State of Louisiana herein while the city is a shareholder of the capital stock of said defendant corporation and while the city holds the above-stated relation to its co-shareholders as above pleaded and as shown by the record in this cause.

Therefore defendant prays that its exceptions may be maintained and the said intervention of the City of New Orleans herein be dismissed with costs.

J. R. BECKWITH,
E. HOWARD McCALEB,
FARRAR, JONAS & KRUTTSCHNITT,
Attorneys for The New Orleans Water Works Company, Defendant.

(Printed copy of original exceptions of the New Orleans Water Works Company to the intervention of the city of New Orleans.)

88 *Exception Overruled.*

Extract from Minutes, Division "E."

FRIDAY, *June 30th*, 1900.

Present: Hon. Geo. H. Theard, judge.

For the reasons orally assigned by the court:

It is ordered that the exceptions herein filed by defendant on May 29th 1899 to the petition of intervention of the City of New Orleans be overruled.

89 Civil District Court, Division "E."

CITY OF NEW ORLEANS
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Note of evidence, on behalf of defendant, in the above numbered and entitled cause, taken in open court on the 27th day of June, A. D. 1899, before the Honorable George H. Theard, judge.

Present: J. R. Beckwith, Esq., for N. O. Water Works Co.; Messrs. B. R. Forman and J. J. McLoughlin, for plaintiff.

Counsel for water works company offers, introduces, and asks to be filed in evidence, attested copy of notarial act passed before Le Gardeur, notary public, on April 9th 1898; being act of sale of water works to defendant, and annexed to defendant's answer as "Exhibit 'B.'"

Also offers in evidence attested copy of the record of transfer of stock in the New Orleans Water Works Company by the city, showing the balance of shares of stock still owned by the city.

Also offers in evidence attested copy of the record of dividends paid on shares of stock owned by the city.

Also offers in evidence attested copy of the record of stock trans-

fers of the city of New Orleans, showing a balance of 3929 shares still standing in the name of the city.

Objected to by counsel for plaintiff, on the ground that the certificate of the secretary of the water works company is no proof of anything, and that the books are the best evidence.

Objection overruled by the court.

To which ruling of the court counsel for plaintiff excepts, and reserves this note in lieu of a bill.

The city concedes that it owns 3927 shares of stock, and has collected the dividends on them.

90 *Stipulations and Agreement of Counsel.*

Filed Sept. 25th, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

It is stipulated and agreed by and between the respective counsel and attorneys in this cause, that in order to save expenses and the necessity of the production of bulky and voluminous records in court, on the trial of this cause, either side thereof may produce copies of the records of the city of New Orleans, being proceedings and records of the legislative, administrative or executive department thereof, or extracts therefrom, or city ordinances, verified by the affidavit of the person making such copies that the copies or extracts so offered in evidence were made by the affiant, and that he has carefully compared said copies with the original record thereof, and that the same are true and exact copies of said original records, and the same shall be taken as *prima facie* true copies of said originals, subject always to the right of either party to verify the same by comparison with the original records in the event the correctness or accuracy of the copies is questioned, and always saving unto either party all legal objections to the admissibility of such copies for any legal cause or grounds other than the manner of verification.

(Signed) M. J. CUNNINGHAM,
Att'y General.
J. R. BECKWITH,
Att'y for Def't.

SAM'L L. GILMORE, *City Att'y.*
B. R. FORMAN, *Of Counsel.*

August 24, 1899.

91 *Answer of the New Orleans Water Works Company to City of New Orleans's Intervention.*

Filed Sept. 25th, 1899.

Civil District Court for the Parish of Orleans, Division E.

THE STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY, THE City of New Orleans Intervening. } No. 58345.

Answer of the New Orleans Water Works Company to the intervention of the City of New Orleans as allowed by the court.

And now comes the said defendant, The New Orleans Water Works Company, by its undersigned attorneys, and in nowise waiving or abandoning each or any of its several exceptions or pleas to the said intervention of the city of New Orleans herein as the same are now of record herein, but in all things and at all times insisting thereon and maintaining that the same are well taken and sufficient in law, by reason of the adverse judgment of the court thereon, makes further answer and defense herein against the said intervention of the city of New Orleans herein and repeats and reiterates each and all of its said several exceptions and pleas hereinbefore pleaded herein against the said city of New Orleans.

And defendant further saith that it is advised that it is the contention and claim of the city of New Orleans that although under the laws of the State of Louisiana governing legal remedies and procedure in the courts of the State for the protection and enforcement of contracts as the same existed in 1877 and 1878, when this defendant entered into its charter contract with the State of Louisiana and its contract of purchase of said water-works property from the city of New Orleans, the said city could not lawfully intervene in this action in manner and form as it has now been permitted to do, viz: in a cause where it could not lawfully be permitted to stand as the plaintiff in the action alleging the matters set forth in the petition of the State herein, nor have the relief demanded or sought for by the State herein, yet now claims to have acquired such right and power to act as a plaintiff in this action with the right to ignore and disregard all operative estoppels, as well as its own solemn warranty covenants, and that such extraordinary power is granted and conferred on the city and on the courts by the effect of the provisions of an act or resolution of the legislature of the State approved July 14, 1898, and published in the laws of the State as act No. 150 of the acts of 1898, averring that said act 150 of the acts of 1898, *quoad*, this cause and the parties thereto repealed, suspended or subverted all prior legislation and legislative restraints and restrictions in that respect and behalf in existence and opera-

tive as a part of the law of contracts in the State when the
92 charter contract between the State and this defendant was made, and when it entered into contract relations with the city of New Orleans by the purchase of said water works property.

This defendant at all times insisting that said act No. 150, of the acts of 1898, cannot be lawfully so construed as matter of law, yet if the court shall and does so construe said act 150 of the acts of 1898, then this defendant specially insists and pleads that the said act No. 150 of acts of 1898, so construed is in all things null and void for repugnance to the Constitution of the United States particularly to section 10, of article 1 thereof, and to the fourteenth amendment of the Federal Constitution, as well as for repugnance to the existing constitution of this State as impairing the faith of contracts and the guarantee of the equal protection of the law to all inhabitants and citizens of the State, and of the United States, as well as due process of law, and this defendant so pleads herein.

And this defendant further answering as to the said intervention of the city of New Orleans herein, adopts and pleads all and singular all of the pleas, exceptions, denials and matters contained and set up and pleaded in its said answer to the petition of the State of Louisiana, as its said answer is now of record in this cause the same in all respects as if the same was written in this answer to said intervention *in extenso*.

And further saith that if there is any matter or thing in the said petition of the State of Louisiana adopted by the said intervenor herein that is not in said answer denied, avoided or put at issue in said answer so by this defendant adopted, this defendant saith that the same are in all things false and untrue as averred in said petition, and takes full issue of fact thereon with the said city of New Orleans.

And further answering herein defendant saith that the city of New Orleans at all times since this defendant entered into the said contract with the said city for the purchase of the said water works property, and purchased the same, has acted in bad faith toward this defendant and has constantly and continuously evaded, disregarded and avoided its obligations as the vendor of said property and has at all times been guilty of the breach of warranty of the title conveyed to this defendant by the city as the same is imposed on the city by law and its several covenants of warranty written in said contract of sale to this defendant, while this defendant has in all things fully complied with all of the obligations in its contract with the city of New Orleans to be observed and kept on its part.

This defendant as to the said intervenor, the City of New Orleans, not waiving any other of its said pleas and exceptions herein, and in its answer to the petition of the State of Louisiana adopted herein, pleaded pleads prescription of one, two, three, five and ten years under the laws of Louisiana against all of the matters set forth in the said petition of the State of Louisiana herein as adopted by the city of New Orleans in its intervention herein as peremptory exception thereto.

Defendant prays judgment against the city of New Orleans and its said intervention herein with costs.

J. R. BECKWITH,
FARRAR, JONAS & KRUTTSCHNITT,
E. HOWARD McCALEB,
Attorneys for Defendant.

93 *Answer & Plea of the City of New Orleans to the Intervention of the Board of Liquidators.*

Filed October 23rd, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Now into court comes the City of New Orleans, intervenor herein, and for answer to the intervention of the board of liquidation herein, pleads that said board is without cause of action and has no interest or right entitling it to intervene in this proceeding or to stand in judgment herein, and if the same is overruled, expressly the- reserving the same, then and then only, the city of New Orleans denies all and singular the allegations of the intervention of said board of liquidation filed herein.

Wherefore intervenor, the City of New Orleans, prays that the intervention of the board of liquidation herein be dismissed and their demands rejected at the cost of said board, and for general relief.

(Signed) JAMES J. McLOUGHLIN,
Ass't City Att'y.

N. O., Oct. 23, '99.

94 *Record No. 9565, John Foster vs. The New Orleans Water Works Company, Offered in Evidence by Plaintiff.*

Petition.

To the hon. civil district court for the parish of Orleans:

The petition of John Foerester with respect represents.

That petitioner is engaged in the business of rice milling & manufacturing of rice flour and have been so engaged for 20 years.

That steam power is necessarily used, in the said business.

That the only means of obtaining sufficient supply of water for the purpose of running the steam-engines necessarily used in petitioner's business is from the pipes & mains of the New Orleans Water Works Company, that said water works, company, is claiming and exercising the exclusive privilege of supplying with water the inhabiants of the city of New Orleans & that said company is

by law obliged to furnish said inhabitants with a sufficient supply, of water that under the charter the said water works company cannot charge any higher rates than were paid to the city of New Orleans on M'ch 31st, 1877 that petitioner is willing and ready to pay to the said water works company the rate paid by petitioner at the aforesaid date to the city of New Orleans but that the said water works company resuse to receive the same and refuse to fur-
95 nish water to petitioner except upon petitioner paying a much larger sum. That the said water works company demand of petitioner the som of three hundred and fifty dollars for a water supply for the ensuing year and refuse to furnish to petitioner any water except upon the payment of said sum which is far in excess of the amount really due by petitioner.

That the said company has declared its intention to harass petitioner unless -aid sum so illegally — shall be paid and petitioner fears that unless restrained the *the* said water works company will cut off the water supply of petitioner & thus cause him irreparable injury by entirely destroying his business in a sum exceeding one thousand dollars.

That petitioner is willing to pay to the said company the rate paid to the city of New Orleans in 1877 as above set forth & has offered to do the same but has been refused by the company.

Wherefore petitioner prays that a' writ of injunction do issue forbid-ing and enjoining the said New Orleans Water Works Company from ceasing to supply the petitioner with water in sufficient quantities for his said business as rice miller & forbid-ing & enjoining the said N. O. Water Works Company its servants & employees from cutting off the water supply of petitioner and from in any manner interfering with the use by petitioner for the purpose of rice milling the water conveyed through the pipes of N. O. Water Works Company.

And that the New Orleans Water Works Company be cited to answer hereto and that after due proceedings had there be judgement in favor of petitioner and against the New Orleans Water
96 Works Company perpetuating the injunction herein issued & decreeing that petitioner shall have the right to use the water supplied through the pipes of said company on payment of the rates paid by petitioner to the city of New Orleans in 1877, and for costs and general relief.

(Signed) JONAS & NIXON, *Att'ys.*

Answer.

Civil District Court for the Parish of Orleans, Div. B.

Foster & Co.
vs.
The New Orleans Water Works Company. } No. 9565. Answer.

And now comes the said defendant by J. R. Beckwith its attorney and saving and reserving all exceptions hereto pleaded for answer

to said plaintiff's petition denies all and singular all of the allegations contained and set forth in said plaintiff's petition and specially denies that the plaintiff has paid tendered to or secured to the defendant the payment — any sum of money whatsoever or the price of the water demanded and supplied by this defendant to the said plaintiff or has in any manner had the basis or right to demand a water supply from the defendant or had the basis of any right to the injunction herein and prays that the said injunction be dismissed and for judgement against the plaintiff's demand *the* costs.

(Signed) J. R. BECKWITH,
Att'y for Def't.

97 *Record No. 9567, Allen & Syme vs. The New Orleans Water Works Company, Offered in Evidence by Plaintiff.*

Petition.

To the hon. the civil district court for the parish of Orleans:

The petition of Allen & Syme, a commercial firm domiciled and doing business in New Orleans and composed of Columbus H. Allen and Fred. J. Syme residents of New Orleans with respect represents.

That the petitioner is engaged in the business of rice milling & manufacture of rice flour in the city of New Orleans & *and* have been so engaged for ten years.

That steam power is necessarily used in the said business. That the only means of obtaining sufficient supply of water for the purpose of run-ning the steam-engines necessarily used in petitioner's business is from the pipes & mains of the New Orleans Water Works Company that said water works company is claiming & *and* exercising the exclusive privilege of supplying water to the inhabitants of the city of New Oleans & that said company is by law obliged to supply the said inhabitants with sufficient water; that under the charter the said water works company cannot charge any higher rates than were paid to the city of New Orleans on M'ch 31st 1877; that petitioner is willing and ready to pay to the said water works company the rate paid by petitioner at the aforesaid date to the city of New Orleans but the said water works company refuse to receive the same, and refuse to furnish water to the petitioner except upon
98 petitioner paying a much larger sum. That the said water works company demand of petitioner the sum of three hundred and fifty dollars for a water supply for the ensuing year and refuse to furnish to petitioner any water except upon the payment of said sum which is far in excess of the amount really due by petitioner.

Tah*t* the said company has declared its intention to haras- petitioner unless said sum so illegally exacted shall be paid and petitioner fears that unless restrained the said water works company will cut off the water supply of petitioner & thus cause him irreparable

injury by entirely destroying his business in a sum exceeding one thousand dollars.

That petitioner is willing to pay to the said company the rate paid to the city of New Orleans in 1877 as above set forth & has offered to do the same but has been refused by said company.

Wherefore petitioner prays that a writ of injunction do issue for-bid-ing enjoining the said New Orleans Water Works Company from ceasing to supply petitioner with water in sufficient quan-ities for his said business as rice miller, and forbid-ing & enjoining the said New Orleans Water Works Company its servants & employees from cutting of- the water supply of petitioner and from in any manner interfering with the use by petitioner for the purpose of rice mill-ing of the water conveyed through the pipes of the New Orleans Water Works Company.

And that the New Orleans Water Works Company be cited to answer hereto, and that after due proceedings had there be judg-ment in favor of petitioner and against the N. O. Water Works Company perpetuating the injunction herein issued; and decreeing
that petitioner shall have the right to use the water supplied
99 through the pipes of the New Orleans Water Works Com-pany.

And that the New Orleans Water Works Company be cited to answer hereto, and that after due proceedings had there be judg-ment in favor of the petitioner and against the N. O. Water Works Company perpetuating the injunction herein issued; and decreeing that petitioner shall have the right to use the warter supplied through the pipes of said company on payment of the rates paid by peti-tioner to the city of New Orleans in 1877. And for costs & general relief.

(Signed) JONAS & NIXON, *Att'ys.*

Answer.

Civil District Court for the Parish of Orleans.

ALLEN & SYME
vs.
NEW ORLEANS WATER WORKS COMPANY. } 9567.

And now comes the said defendant by J. R. Beckwith its attorney and saving and reserving all and all manner of exceptions hereto-fore filed for answer to the plaintiff's petition saith that it denies all and singular all of the allegations contained in said plaintiff's petition and specially denies that the said plaintiff ever tendered or secured to the defendant any sum of money whatsoever for the said water supply disclosed in said petition but avers that the said defendant is in all things insecure ther-for either for the sum demanded by this defendant or for the sum which the plaintiffs
name- as due and pray- judjment that the writ of injunction
100 be dissolved and that there be judgment against plaintiffs.

(Signed) J. R. BECKWITH,
Att'y for Def't.

Record No. 9568, Louis Ruch vs. New Orleans Water Works Company, Offered in Evidence by Plaintiff.

Petition.

To the hon. the civil district court for the parish of Orleans.

The petition of Louis Ruch who resides in New Orleans with respect represents.

That the petitioner is engaged in the business of rice milling and manufacture of rice flour in the city of New Orleans & have been so engaged for eleven years.

That steam power is necessarily used in the said business.

That the only means of obtaining sufficient supply of water for the purpose of running the steam-engines necessarily used in petitioner's business is from the pipes and mains of the New Orleans Water Works Company that said water works company is claiming and exercising the exclusive privilege of supplying water to the inhabitants of the city of New Orleans & that said company is by law obliged to supply the said inhabitants with sufficient water, that under the charter the said water works company cannot charge any higher rates than were paid to the city of New Orleans on M'ch 31st, 1877, that petitioner is willing & ready to pay to the said water works company the rates paid by petitioner at the aforesaid date to
101 the city of New Orleans but that the said water works company refuses to receive the same and refuse- to furnish water to petitioner except upon petitioner paying a much larger sum. That the said water works company demand of petitioner the sum of six hundred dollars for a water supply for the ensuing year and refuse to furnish to petitioner any water except upon the payment of said sum which is far in excess of the amount really due by petitioner.

That the said company has declared its intention to harass petitioner unless said sum so illegally exacted shall be paid and petitioner fears that unless restrained the said water works company will *be* cut off the water supply of petitioner & thus cause him irreparable injury entirely destroying his business in a sum of over one thousand dollars.

That petitioner is willing to pay to the said company the rate paid to the city of New Orleans in 1877 as above set forth and has offered to do the same but has been refused by said company.

Wherefore petitioner prays that a writ of injunction do issue forbidding and enjoining the said New Orleans Water Works Company from ceasing to supply petitioner with water in sufficient quantities for his said business as rice miller & forbidding & enjoining the said water works company its servants & employees from cutting off the water supply of petitioner and from in any manner interfering with the use by petitioner for purpose of rice milling of the water conveyed through the pipes of the N. O. Water Works Company.

And that the New Orleans Water Works Company be cited to

answer hereto and that after due proceedings had there be judgment in favor of petitioner & against the New Orleans Water Works
102 Company perpetuating the injunction herein issued and decreeing that petitioner shal- have the right to use the water supplied through the pipes of said company on payment of the rates paid by petitioner to the city of New Orleans in 1877. And for costs and general relief.

(Signed) JONAS & NIXON, *Att'ys.*

Answer.

Civil District Court for the Parish of Orleans.

LOUIS RUCH
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } 9568. Answer.

And now comes the said defendant and saving and reserving all and all manner of objection and exception heretofore pleading herein for answer saith that it denies all and singular the allegations in said petition set forth except in so far as hereinafter admitted specially and saith that by reason of everything in said petition contained the said plaintiff is not entitled to the relief and judgment by him prayed for.

Defendant admits that the plaintiff is a consumer of water from the pipes and mains of defendant without it- consent first had and obtained and without money first paid or tendered the sum of money the price thereof which defendant has demanded and had the lawful right to demand and is now and at all time since the commencement of the suit and before that time and since the 1st of October 1883 has so been so consuming and using the pipes of defendant without lawful right thereto.

And says that said defendant has the lawful right to charge
103 and demand a rate and pay for the water furnished by said defendant and that prior to the said 1st day of October 1883 it had only established such rate and that the rate so established did and does not yield to said defendant a net profit of ten per centum for supplying water to the inhabitants of the city of — Orleans nor is the same in excess of the rate charged by or paid to the city of New Orleans while said city was the owner of said water works but is a just true and lawful rate.

That before said plaintiff was entitled to consume said water of said defendant he was by law compelled to pay said rate so established which he has wholly neglected and failed to do.

That by reason of the quantity of water consumed by said plaintiff in making steam and for other purposes on his said premises he was and is of right and by law required to pay to said defendant the full sum of one thousand dollars for the time commencing on the first day of October 1883 and ending on the first day of the year 1884 inclusive and that the attempt by said plaintiff to obtain the

water used by him at a less price and rate is a wrong and injury to defendant.

Said defendant prays that there be judgment against said plaintiff with costs reserving to the defendant its action for damages on the bond for injunction filed herein by plaintiff.

(Signed) J. R. BECKWITH,
Att'y for Def't.

Record No. 9566, Ernst & Co. vs. The New Orleans Water. Works Company, Offered in Evidence by Plaintiff.

Petition.

To the honorable the civil district — for the parish of Orleans:

104 The petition of Ernst & Co. a commercial firm domiciled in New Orleans and composed of T. G. Ernst W. and Joseph Buhler resident of New Orleans with respect represents:

That the petitioner is engaged in the business of rice-milling & manufacture of rice flour in the city of New Orleans & have been so engaged for five years.

That steam power is necessarily used in the said business.

That the only means of obtaining sufficient supply of water for the purpose of running the steam-engines necessarily used in petitioner's business is from the pipes & mains of the New Orleans Water Works Company that said water works company is claiming & exercising the exclusive privilege of supplying water to the inhabitants of the city of New Orleans & that said company is by law obliged to supply the said inhabitants with sufficient water that under the charter the said water works company cannot charge any higher rates than were paid to the city of New Orleans on M'ch 31st 1877 that petitioner is willing & ready to pay to the said water works company the rate paid at the aforesaid date to the city of New Orleans but that the said water works company refuse to receive the same and refuse to furnish water to petitioner except upon petitioner paying a much larger sum. That the said water works company demand of petitioner the sum of three hundred and sixty dollars for a water supply for the ensuing year & refuse to furnish to petitioner any water upon the payment of said sum which is far in excess of the amount really due by petitioner.

That the said company has declared its intention to haras- petitioner unless said sum so illegally exacted shall be paid and petitioner fears that unless restrained the water works company
105 will cut off the water supply of petitioner and thus cause him irreparable injury by entirely destroying his business in a sum exceeding one thousand dollars.

That petitioner is willing to pay to the said company the rate paid to the city of New Orleans in 1877 as above set forth & has offered to do the same but has been refused by said company.

Wherefore petitioner prays that a writ of injunction do issue forbidding and enjoining the said New Orleans Water Works Company

from ceasing to supply petitioner with water in sufficient quantities for his said business as rice-miller and forbidding and enjoining the said New Orleans Water Works Company its servants & employees from cutting off the water supply of petitioner and from in any manner interfering with the use of petitioner for the purpose of rice-milling of the water conveyed through the pipes of the N. O. Water Works Company.

And that the N. O. Water Works Company be cited to answer hereto, and that after due proceedings had there be judgment in favor of petitioner & against the New Orleans Water Works Company perpetuating the injunction herein issued and decreeing that petitioner shall have the right to use the water supplied through the pipes of said company on payment of the rate paid to the city of New Orleans in 1877. And for costs & general relief.

(Signed) JONAS & NIXON, *Att'ys.*

Answer.

Civil District Court, Parish of Orleans.

ERNST & Co.
vs.
NEW ORLEANS WATER WORKS Co. } 9566.

106 And now comes the said defendant and for answer to the plaintiff's demand saith that it denies all and singular all of the allegations set forth in plaintiff's petition and all amended and supplemented petition and prays judgment against plaintiff with costs.

(Signed) J. R. BECKWITH,
Att'y for Def't.

Judgment.

Civil District Court for the Parish of Orleans, Division "A."

ERNST & Co.
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 9566.

This case came on for argument this day—present J. O. Nixon Jr. Esq., for pl'ffs, and attorney for defendant absent, when after hearing counsel & pleadings, for the reasons orally assigned by the court, it is ordered, adjudged and decreed that plaintiffs Ernst & Co. be held to be entitled to a supply of water, to be furnished through the pipes of the defendent company adequate for the purpose of mill owned by them so described in the petition upon their paying annually in advance the sum of two hundred and ninety-three $\frac{23}{100}$ dollars to said company, being at the rate of fifteen cents per thousand gallons, for the estimated quantity of water to be consumed by said Ernst & Co. during the year for which said payment is thus to be made.

It is further ordered, that the right of the company defendant, be reserved, to recover at the rate of fifteen cents per one thousand gallons, the value of any water used by said Ernst & Co. in
107 excess of the amount paid for by said $293.22 and upon recovery of judgment for any such excess the right of the said company to cut off the supply of water from said mill, until the same is paid and satisfied be also reserved.

It is further ordered that should the amount of water assumed by Ernst & Co. fall below the value of $293.22 (estimated at 15 cents per 1000 gallons) the payment required of said plaintiffs may be correspondingly decreed.

It is further ordered that the injunction herein issued be maintained in so far as may accord with this decree & otherwise dissolved at costs of defendant.

Judgment rendered November 24th, 1886

Judgment signed December first 1886.

(Signed) A. L. TISSOT, *Judge.*

Record No. 9569, *Warner & Hoelzel vs. The New Orleans Water Works Company, Offered in Evidence by Plaintiff.*

Petition.

To the hon. the civil district court for the parish of Orleans:

The petition of Werner & Hoezel composed of Henry Werner & Philil Hoelzel Jr. both domiciled in the city of New Orleans with respect represents.

That petitioner is engaged in the business of rice-milling & manufacture of rice flour in the city of New Orleans & have been so engaged for six years.

That steam power is necessarily used in the said business.

That the only means of obtaining sufficient supply of
108 water for the purpose of running the steam-engines necessarily used in petitioner's business is from the pipes & mains of the New Orleans Water Works Company that said water works company is claiming & exercising the exclusive privilege of supplying with water the inhabitants of the city of New Orleans that said company is by law obliged to supply the said inhabitants with sufficient water that under the charter the said company cannot charge any higher rates than were paid to the city of New Orleans on M'ch 31st, 1877, that petitioner is willing & ready to pay to the said company the rate paid by petitioner at the aforesaid date to the city of New Orleans but that the said water works company refused to receive the same & refuse to furnish water to petitioner except upon petitioner paying a much larger sum that the said water works company demanded of petitioner the sum of three hundred dollars for a water supply for the ensuing year & refuse to furnish petitioner with water except upon the payment of said sum which is far in excess of the amount really due by petitioner that the said company has

declared its intention to harass petitioner unless said sum so illegally exacted shall be paid and petitioner fears that unless restrained the said water works company will cut off the water supply of petitioner & thus cause him irreparable injury by entirely destroying his business in a sum exceeding one thousand dollars.

That petitioner is willing to pay to the said company the rate paid to the city of New Orleans in 1877 as above set forth & has offered to do the same but has been refused by said company.

Wherefore petitioner prays that a writ of injunction do issue forbidding & enjoining the said New Orleans Water Works
109 Company from ceasing to supply petitioner with water in sufficient quantities for his said business as rice-miller and forbidding & enjoining the said New Orleans Water Works Company its servants & employees from cutting off the water supply of petitioner & from in any manner interfering with the use by petitioner for purposes of rice-milling of water conveyed through the pipes of the New Orleans Water Works Company and that the New Orleans Water Works Company be cited to answer hereto and that after due proceedings had there be judgment in favor of petitioner and against the New Orleans Water Works Company perpetuating the injunction herein issued and decreeing that petitioner shall have the right to use the water supplied through the pipes of the said company on payment of the rates paid to the city of New Orleans in 1877 and for costs and general relief.

(Signed) JONAS & NIXON, *Att'ys.*

Answer.

Civil District Court for the Parish of Orleans.

WARNER & HOELZEL
vs.
NEW ORLEANS WATER WORKS CO. } 9569.

And now comes the said defendant by J. R. Beckwith its attorney and saving and reserving the benefit of all and all manner of exceptions heretofore filed herein for answer to said plaintiff's petition denies all and singular each and every allegation contained and set forth in plaintiff's petition and denies specially that the plaintiff has paid or secured to be paid or tendered unto the defendant any sum of money whatsoever in payment for any
110 water supply or had the legal basis for any right to any water supply from this defendant and denies that said plaintiff has had any right to any writ of injunction against this defendant and prays for judgment that the writ herein be dissolved and that there be judgment against the said plaintiff with the costs.

(Signed) J. R. BECKWITH,
Att'y for Def't.

Tariff of Water Works Co., Offered in Evidence by Plaintiff.

Filed Nov. 9th, 1899.

Official.

The common council.

Board of assistant aldermen.

CITY HALL, NEW ORLEANS, *December* 8, 1869.

Extract from minutes.

In connection with the consideration of the subject involved in the above report and ordinance, the secretary was directed to read the following communication from the office of the city water works:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *Dec.* 3, 1869.

(Extract from the minutes.)

On motion, the following preambles and resolution were unanimously adopted by the board:

The mayor and common council of the city, have been notified on the 1st of November, 1869, under the instruction of this board that any proposed change in the tariff of water rates should be made by the first of December and not having acted,

111 Resolved, That the following shall be the rates for the year 1870 and until such time as they may be amended or abolished by the competent authority.

(A true copy.)

(Signed) S. E. PERCY, *Secretary.*

After a prolonged debate upon the motion of Mr. Barnes, to substitute in lieu of the tarif- of water rates submitted by the joint committee of common council, the rates transmitted by the commissioners of the water works, recommended by that body for adoption, it was decided to adhere to the report of the joint committees, when, on motion of Mr. Pasley, the ordinance establishing a tariff of water rates for the year 1870, as it appears above, was adopted on its several readings by the following vote:

Yeas: Messers. Davis, Camp, Stringer, Sturcken, Pasley and Farrell.

Nays: Messers. Kearney, Barnes and Breen.

The secretary was, on motion, directed to transmit the ordinance so adopted to the board of aldermen, for concurrence in time for their consideration at the adjourned meeting; to be held by that body on the 9th inst. * * *

(S'g'd) JOHN TOBIN, *Secr'y.*

CLERK'S OFFICE, CITY HALL,
NEW ORLEANS, LA., *June* 23, '98.

I certify that the above is a true extract from the official proceedings of board of assistant aldermen, of date Dec'r 8, 1869, and now on file in the "archives" of the city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

112 Official.

City council.

Board of aldermen.

Adjourned session.

CITY HALL, NEW ORLEANS, *Dec.* 9, 1869.

The board convened pursuant to adjournment.

Present: Messrs. Wiltz, Brady, Harrison, Kaiser, McCaffery, O'Brien, Prados and Shields—8.

President Wiltz in the chair, stated the special order to be to take up for concurrence from board of ass't aldermen the ordinance establishing a tariff of water rates for 1870.

The ordinance was read.

Mr. McCaffrey moved to amend by erasing the whole of section 13, and inserting instead thereof the words "For a daily average of the 2000 gallons or more per 1000 gallons 20 cents."

Adopted by the following vote: Yeas, Messrs. Wiltz, Brady, Harrison, McCaffrey—4.

Nays: Mr. Kaiser—1.

The following ordinance, as amended, was then unanimously concurred in on both readings, the rules being suspended.

Tariff of Water Rates as Proposed for 1870.

1. Private dwellings.

For 4 rooms or less	$6.00
For 5 or 6	7.
For 7 or 8	8.
For 9 or 10	9.
For 11 or 12	10.
For 13 or 14	11.
For 15 or 16	12.
For 17 or 18	13.
113 For 19 or 20	14.
Each room above 20	.50
Boarding-houses or boarding schools, for each room	1.50
Houses occupied by more than one family to be charged for each family over and above one	3.00
Day schools, dwelling rates, and for each pupil	.10

2. Hotels.

3. Stores, shops, etc.

For wholesale or retail stores and shops	$3. to 15.00
Offices and lodging-rooms	1.50 to 15.00

4. Saloons, etc.

For coffee-houses	10. to 75.00
Eating-houses and restaurants	10. to 100.00
Lager beer and ice cream	10. to 100.
Billiard saloons, per table	4.
Bowling saloons, per alley	4.
Gambling saloons	25. to 100.

5. Stables, per stall of 5 ft. measurement (over in proportion).

For livery and sale and street railroad, per stall	2.00
Livery and street railroad, each wheeled vehicle or car	2.50
Private stable for each horse or mule	2.00
Private stable for each cow or head of cattle	1.00
Private stable for each carriage, buggy or vehicle	1.50
Government stable for each stall	2.00
Stock yard, per head of stock	1.25

6. Hose attachments.

For sprinkling streets and washing sidewalks, steps, windows, and fronts of lots, not over 25 ft. front	5.00
For each additional foot front	.10

Corner lots both fronts charged.

For sprinkling private yards and gardens and washing walks in the same per 100 sq. yds	.50
For sprinkling public or pleasure grounds per 100 sq. yds	1.50

114 Bd. of ald., adj. mtg., Dec. 9, 1869.

For street-sprinkling cart, per square of 300 ft	12.00
For protection against fire, when rented for no other purposes, per fire-plug, contractors puts in his own plug and keeps it in order	75.00

7. Baths.

For private dwellings, cold bath, each	4.00
For private dwellings, warm bath, each	6.00
For hotels, boarding-houses, hospitals and public bath-houses, cold bath, each	8.00
For hotels, boarding-houses, hospitals and public bath-houses, warm bath, each	12.00

8. Water-closets.

For private dwellings, stores and offices, each	4.00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each	8.00

(None but self-closing allowed.)

9. Urinals.

For private dwellings, stores, and offices, each	2.00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each	7.00

For a constant flow, charge will be made by meter or calculation.

10. Stationary wash-basins.

For private dwellings, stores and offices, each	3.00
For hotels, boarding-houses, hospitals, saloons, barber shops, manufactories, and all other public places	3.00

11. Kitchen and laundries.

For slop sink, with draw	3.00
For each additional	1.00
For wash-tub, with draw, each	1.00

Laundries, washerwomen, etc.

12. Building purposes.

115	For brick-work, 10,000 or less	1.00
	Over 10,000 per thousand	.10
Plastering, per square yard		.01

13. Quantity assessments.

For daily average of 2,000 gallons or less per 1,000 galls.	.20

For use of metre when supplied by the works:

4-inch, 1 cent per 1,000 gallons.
3-inch, 1½ cents per 1,000 gallons.
2-inch, 2 cents per 1,000 gallons.
1½-inch, 2½ cents per 1,000 gallons.
1-inch, 3 cents per 1,000 gallons.
⅝-inch, 3½ cents per 1,000 gallons.

14. Manufactories, artisans, etc.

For bakeries, for each barrel of flour used	.02
For breweries, per barrel beer made,	
Per ditto, washed,	
Book-bindery,	
Confectioners,	
Candle and soap factories,	
Camphene spirit,	
Gas or alcohol,	
Dyers and scourers,	
Distillers,	
Foundries,	
Flouring mills,	
Fountains,	
Forges, blacksmiths, each	3.00

Glue factories,
Gas works,
Hat manufactories,
Hands in factories, each,
Hospitals, per inmate,
Laboratory,
Market stalls, and stands,
Malting, per bushel,
116 Mineral-water factories,
For printing offices,
For packing-houses, per barrel of meat packed,
Planing mills,
Rectifying establishments,
For railroad locomotives, per daily trip..... $50. to 75.00
For steam-engine, per horse-power..... ..... 6.00
For slaughter-houses,
Sugar refineries,
Starch factories,
For steam boilers for heating purposes,
For tanneries, per vat,
For tobacco factories,
For vinegar manufactories,
For washing meat, per 100 washed,
For cotton presses,

Assessed.

For purposes not specified in the above tariff, the rate shall be assessed by the registrar of water rents, based on inspection and calculation.

Mr. Kaiser gave notice that he would move for a reconsideration at the next meeting, which, however, was subsequently withdrawn.

* * * * * * *

(Endorsed:) In ink: Tariff of 1870 and ordinances of council leading up to passage of tariff. In pencil: Filed June 23, '98. Porter Parker. (9)

Official.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *Dec.* 14, 1869.

Extract from the minutes.

117 The tariff of water rates was here taken up under a suspension of the rules, and the amendment of the board of aldermen to sec. 13, entitled quantity assessments, concurred in. A further amendment by Mr. Pasley, under sec. 4, to reduce the

charge on billiard tables to $2 per table instead of $4, was adopted, and the ordinance as follows ordered transmitted to the board of aldermen for concurrence in the amendment of Mr. Pasley:

(Signed) JOHN TOBIN, *Secretary.*

CLERK'S OFFICE, CITY HALL,
NEW ORLEANS, LA., *June* 23, 1898.

I certify the above to be a correct extract from the official proceedings of board of assistant aldermen, of date December 14, 1869, and now on file in the "archives" of the city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

The common council.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *Dec.* 30, 1869.

Extract from minutes.

The following message from the mayor was ordered to lie over:

STATE OF LOUISIANA,
MAYORALTY OF NEW ORLEANS,
CITY HALL, *Dec.* 28, 1869.

To the hon. the common council.

GENTLEMEN: I return herewith, without my approval, an ordinance entitled "Tariff of water rates as proposed for 1870." In my communications to your honorable boards, dated July
118 13th and Sept. 10th, returning ordinance for the transfer of the water-works funds from the hands of the commissioners to the then fiscal agent, I detailed at length the repairs absolutely necessary in order to keep up the supply of water for the extinguishment of fires and enhancement of the sanitary condition of the city, together with the purchase of coal and other essential material.

I have now only to call your attention to the following report of the superintendent to the board of commissioners:

* * * * * * *

(Signed) JOHN R. CONWAY, *Mayor.*

CLERK'S OFFICE, COUNCIL CHAMBER,
CITY HALL, NEW ORLEANS, LA., *June* 23, 1898.

I certify the above to be a correct extract from the official proceedings of the assistant aldermen, of date December 30th, 1869, and now on file in the "archives" of the city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *Jan.* 11, 1870.

Extract from the minutes.

The veto message of the mayor on the subject of an ordinance entitled "Tariff of water rates as proposed for 1870" was on motion of Mr. Pandely called from the table, and, after having been read, the ordinance was taken up as returned by the mayor, and on motion it was persisted in, the mayor's veto to the contrary notwithstanding, by a vote of 13 yeas to 1 nay—Messrs. Fish, Carter,
119 Camp, Casanave, Farrell, Grandpre, Pandely, Pemberton, Staes, Sturcken, Walker, Wynne and Walsh voting in the affirmative, and Mr. Kearney voting in the negative.

The ordinance was hereupon declared to have passed over the mayor's veto by the required two-thirds vote.

(Signed) JOHN TOBIN, *Secretary.*

CLERK'S OFFICE, COUNCIL CHAMBER,
CITY HALL, NEW ORLEANS, *June* 23, 1898.

I certify the above to be a correct extract from the official proceedings of board of assistant aldermen of date January 11th, 1970, and now on file in the "archives" of the city of New Orleans, city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

The common council.

Board of aldermen.

CITY HALL, NEW ORLEANS, *Jan.* 11, 1870.

Extract from minutes.

From board of assistant aldermen.

The tariff and water rates for the year 1870, vetoed by the mayor and passed over the veto by the board of assistant aldermen, and sent up for concurrence in their action, was read by title, and, on motion, laid over subject to call.

(Signed) JOHN H. REES, *Secretary.*

CLERK'S OFFICE, COUNCIL CHAMBER,
CITY HALL, NEW ORLEANS, *June* 23, 1898.

I certify the above to be a correct extract from the official proceedings of board of aldermen, of date January 11th, 1870, and

now on file in the "archives" of the city of New Orleans
120 city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

The common council.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *January* 18, 1870.

Extract from minutes.

The tariff of water rates, as proposed for the year 1870, vetoed by the mayor and passed over the *vote* by the board of assistant aldermen and by them sent up for concurrence in their action, was, on motion, referred to the committee on water works, with instructions to report next meeting.

(Signed) JOHN H. REES, *Secretary.*

CLERK'S OFFICE, COUNCIL CHAMBER,
CITY HALL, NEW ORLEANS, *June* 23, 1898.

I certify the above to be a correct extract from the official proceedings of board of aldermen, of date January 18th, 1870, and now on file in the "archives" of the city of New Orleans, city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *March* 8, 1870.

Extract from minutes.

Mr. Prados moved that the "tariff of water rates for the year 1870," *voted* by the mayor and passed over the veto by the board of assistant aldermen, and by them sent up for concurrence,
121 on the 11th January, 1870, and by this board referred to the committee on water works, be withdrawn from that committee. Carried.

The "tariff of water rates for the year 1870" as concurred in by the board on the 9th day of December, 1869, and published in the minutes of that date, was taken up for action, and its passage unanimously persisted in on both readings, under suspension of the rules, the mayor's veto to the contrary notwithstanding.

(Signed) JOHN H. REES, *Secretary.*

CLERK'S OFFICE, COUNCIL CHAMBER,
CITY HALL, NEW ORLEANS, *June* 23, '98.

I certify the above to be a correct extract from the official proceedings of board of aldermen, of date March 8th, 1870, and now on file in the "archives" of the city of New Orleans, city hall.

(Signed) WALTER R. BRASHEAR,
Clerk of Council.

Official.

City council.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *M'ch 8th*, 1870.

The board convened pursuant to adjournment.

Present: Aldermen Brady, Hassinger, O'Brien, Pessou, Prados, Shields, and President Potthoff in the chair.

The reading of the minutes of the previous session was, on motion, dispensed with.

From the mayor the following communication was read and received:

STATE OF LOUISIANA,
MAYORALTY OF NEW ORLEANS,
CITY HALL, *March 8th*, 1870.

To the honorable presidents and members of the common council.

GENTLEMEN: I transmit herewith a communication from the president of the commissioners of the city water works "embodying a resolution appropriating from the collections an amount sufficient to pay the interest due on the outstanding city water-works
122 bonds, subject to the approval of the mayor and the common council.

I would respectfully recommend the passage of the resolution authorizing the commissioners to pay over to the fiscal agent from funds in hand so much as may be necessary to retire the interest coupons due on the 1st of January, 1870, agreeably to the resolution of the commissioners.

Very respectfully, etc. JNO. R. CONWAY, *Mayor.*

OFFICE CITY WATER WORKS,
NEW ORLEANS, *Feb.* 24, 1870.

To the honorable mayor and common council, New Orleans.

GENTLEMEN: At the regular meeting of the board of commissioners city water works, held at their office yesterday, the following was unanimously adopted, and is reported for your information:

"Whereas, there has been collected and is now on hand to the credit of these works a sum over and above what is necessary for current expenses sufficient to pay the interest coupons of bonds issued for the purpose of these works due on the 1st day of January last for the six months expiring on that day.

Resolved, That the amount necessary for that purpose be and the

same is hereby appropriated subject to the approval of the mayor and common council."

I am, gentlemen,

Very respectfully, your obedient servant,

F. H. HATCH, *Pres't pro Tem.*

Mr. Prados moved for a suspension of the rules, for the purpose of presenting a resolution on the subject of the above communication. Carried.

By Mr. PRADOS: "Resolved, That the board of commissioners of the city water works be and they are hereby authorized and directed to transfer to the Citizens' bank, fiscal agent, to be placed to the credit of interest on water-works bonds, the sum of
123 thirty-four thousand, eight hundred and thirty-five dollars ($34,835.00) amount interest coupons on said bonds, due month of January, ultimo, and that the further sum of thirty-three hundred and thirty-five dollars ($3,335.00) amount of interest coupons previously due and remaining unpaid, making a total sum of thirty-eight thousand, one hundred and seventy dollars ($38,170.00), and in the event of the said board of commissioners being unable from lack of funds to deposit the whole amount above mentioned, immediately, they shall transfer such amounts as may be in their possession and finish said transfer as soon thereafter as they may be placed in funds.

Unanimously adopted on both readings under a suspension of the rules.

(Endorsed:) Tariff of water rates adopted 1870 & in force in 1877. Civil district court, for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99. A. H. Flemming, deputy clerk.

(*Documents Marked from* 2 *to* 10 *Offered in Evidence.*)

Filed Nov. 9, 1899.

Profit and loss ac.

1879, Ap'l	9.	Balance after deducting expenses.....					$59,682.67
1880, Ap'l	9.	"	"	"	"	& dividend	65,308.85
1881, Ap'l	9.	"	"	"	"	" ...	50,685.45
1882, Ap'l	9.	"	"	"	"	" ...	38,854.70
1883, Ap'l	7.	"	"	"	"	" ...	10,362.97
1884, Ap'l	8.	"	"	"	"	" ...	3,937.82
1885, Ap'l	8.	"	"	"	"	" ...	10,675.73
1886, Ap'l	8.	"	" (10)	"	"	" ...	56,116.72
1887, Ap'l	8.	"	"	"	"	" ...	63,956.09
1888, Ap'l	8.	"	"	"	"	" ...	75,366.46
1889, M'ch	31.	"	"	"	"	" ...	102,742.84
1890, M'ch	31.	"	"	"	"	" ...	123,781.78
1891, M'ch	31.	"	"	"	"	" ...	125,383.79
1892, M'ch	31.	"	"	"	"	" ...	135,074.99
1893, M'ch	31.	"	"	"	"	" ...	139,548.00
1894, M'ch	31.	"	"	"	"	" ...	138,644.42
1895, M'ch	31.	"	"	"	"	" ...	127,757.43

124

1896, M'ch 31.	Balance after deducting expenses & dividend					120,885.95
1897, M'ch 31						
1897, M'ch 31.	"	"	"	"	"	... 125,151.73
1898, M'ch 31.	"	"	"	"	"	... 124,770.12

E. & O. E.
(Signed) R. L. MACMURDO, *Sec'y.*

(Endorsed:) In pencil: Profit & loss acc't. Filed July 1, '98 Porter Parker Stamped: Civil district court for the parish of Orleans. No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99 A. H. Flemming, deputy clerk. In blue pencil: 10.

Gallons of Water Pumped Annually.

1878, '79	3,014,350,340
1879, '80	3,054,762,000
1880, '81	3,265,738,910
1881, '82	2,948.347,134
1882, '83	2,900,549,214
1883, '84	2,759,022,884
1884, '85	2,422,611,478
1885, '86 (9)	2,169,299,232
1886, '87	2,209,075,710
1887, '88	2,387,969,376
1888, '89	2,204,153,444
1889, '90	2,831,652,454
1890, '91	3,276.501,048
1891, '92	3,494,325,168
1892, '93	3,667,352,400
1893, '94	3,133,324,943
1894, '95	3,461,024,981
1895, '96	3,491,667,461
1896, '97	3,917,941,248
1897, '98	4,181,021,322

(Endorsed:) In pencil: Water pumped annually Filed June 23, '98 Porter Parker. (Stamped:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99 A. H. Flemming, deputy clerk. In blue pencil: 9.

125

Dividends declared annually.			Interest paid.		Coupons paid.
Ap'l 23, '79	$2. per share,	$40,000			
" 23, '80	2.50 do.	50,000			
" 21, '81	2. do.	40,000	Ap'l 9, '81		$7,150.03
" 21, '82	1.50 do.	30,000	" 9, '82		18,278.25
" 11, '83	2.50 do.	50,000	" 8, '83	$184.98	20,430.00
" 9, '84	3. do.	60,000	" 8, '84	412.03	20,235.00
" 9, '85	3.50 do.	70,000	" 8, '85	827.48	23,925.00
" 9, '86	2. do.	80,000	" 8, '86	457.65	20,415.00
Oct. 6, '86	2.				
Ap'l 11, '87	2. do.	80,000	" 7, '87	84.47	25,530.00
Oct. 5, '87	2.				
Ap'l 10, '88	2. "	80,000	" 7, '88	595.	20,415.00
Oct. 3, '88	2.				
Ap'l 3, '89	2. "	80,000	.....		19,620.00
Oct. 2, '89	2.				
Ap'l 2, '90	2. "	80,000	M'ch 31, '90	733.56	23,503.00
Oct. 6, '90	2.				
Ap'l 1, '91	2. "	80,000	(8)		23,535.00
Oct. 7, '91	2.				
Ap'l 6, '92	2. "	80,000	....		20,045.00
Oct. 5, '92	2.				
Ap'l 5, '93	2.50 "	1,000	M'ch 31, '93	513.32	23,730.00
Oct. 4, '93	2.50				
Ap'l 4, '94	2.50 "	10,000	....		29,890.00
Oct. 3, '94	2.50				
Ap'l 3, '95	2.50 "	10,000	M'ch 31, '95	1,836.25	30,070.00
Oct. 4, '95	2.50				
Ap'l 1, '96	2.50 "	10,000	" 31, '96	2,672.10	36,080.00
Oct. 7, '96	2.50				
Ap'l 7, '97	2.50 "	10,000	" 31, '97	7,751.19	36,365.00
Oct. 6, '97	2.50				
Ap'l 7, '98	2.25 do.	45,000	" 31, '98	7,555.15	36,020.00

(Endorsed:) In pencil: Dividends declared int. & coupons paid June 23, '98 Porter Parker. (Stamped:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99 A. H. Flemming, deputy clerk. In blue pencil: 8.

126 *Operating Expenses.*

For—	State taxes.	For—	City taxes.
1879–'81	$8,959.85		
1882	4,919.36		
1883	5,378.01		
1884	5,979.79		
1885	4,870.71	1885	$20,619.37
1886	6,562.45	1886	22,093.59
1887	5,974.33	1887	20,113.60
1888	6,358.15	1888	21,405.78
1889	5,991.21	1889	20,170.41
1890	10,238.50	1890	29,545.39

1891	7,000.00	1891.....(7)	20,200.00
1892	7,500.05	1892	20,200.00
1893	7,701.40	1893	22,004.00
1894	11,446.40	1894	22,704.0
1895	11,119.36	1895	32,704.0
1896	11,118.05	1896	32,700.00
1897	11,445.05	1897	32,700.00
	132,562.68*		327,160.14*
	8,979.55*		
	132,562.67*		

(Endorsed:) In pencil: Operating expenses Taxes Filed June 24, '98. Porter Parker. (Stamped:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99 A. H. Flemming, deputy clerk. In blue pencil: 7.

127 *Street-service Repairs and Pumping service Repairs.*

Ap'l 9, '79.	Wages & materials (S. S.)	5,384.34		
"	Repairs of machinery, boilers, etc. (P. S.)	2,410.49		
				7,794.8
Ap'l 9, '80.	Wages and materials (S. S.)			5,134.233
Ap'l 9, '81.	Do. do. (S. S.)			3,648.01
Ap'l 8, '82.	Do. do. (S. S.)	5,738.30		
"	Paid Leeds & Co. gen'l repairs to engine & pumps	4,870.82		
				10,609.12
Ap'l 8, '82.	Wages and materials (S. S.) .....(6)	5,319.96		
"	Repairs in P. service	232.81		
				5,552.77
Ap'l 8, '84.	Wages, materials & repairs (S. S.)	5,146.97		
"	Repairs in P. service	1,139.35		
				6,286.32
Ap'l 8, '95.	Wages, materials & repairs (S. S.)	7,682.92		
"	Repairs in P. service	2,106.00		
				9,788.92
Ap'l 8, '86.	Wages, materials and repairs (S. S.)	6,957.24		
"	Repairs in P. service	3,708.11		
				10,665.35
Ap'l 8, '87.	Wages, materials and repairs (S. S.)	7,033.30		
"	Repairs in P. service	2,481.16		
				9,514.46
Ap'l 8, '88.	Wages, materials and repairs (S. S.)	6,032.95		
"	Repairs in P. service	1,547.28		
				8,479.33
M'ch 31, '89.	Wages, materials and repairs (S. S.)	5,239.33		
"	Repairs in P. service	2,445.02		
				7,684.35
M'ch 31, '90.	Wages, materials and repairs (S. S.)	6,901.15		
"	Repairs in P. service	1,904.31		
				8,805.46
M'ch 31, '91.	Wages, materials and repairs (S. S.)	7,775.01		
"	Repairs in P. service	2,443.12		
				10,218.13
M'ch 31, '92.	Wages, materials and repairs (S. S.)	7,034.01		
"	Repairs in P. service	2,232.94		
				9,266.95

[* In pencil in copy.]

M'ch 31, '93.	Wages, materials and repairs (S. S.)	8,592.12		
"	Repairs in P. service.....	1,166.07		
				9,758.19
M'ch 31, '94.	Wages, materials and repairs (S. S.).....	8,383.30		
"	Repairs in P. service.	2,229.65		
				10,612.95
M'ch 31, '95.	Wages, materials and repairs (S. S.).....	10,787.21		
"	Repairs in P. service	2,006.95		
				12,794.16
M'ch 31, '96.	Wages, materials and repairs (S. S.).....	17,424.67		
"	Repairs in P. service	1,261.28		
				18,685.95
M'ch 31, '97.	Wages, materials and repairs (S. S.).....	12,898.56		
"	Repairs in P. service.....	2,793.52		
				15,692.08
M'ch 31, '98.	Wages, materials and repairs (S. S.).....	10,852.69		
"	Repairs in P. service.....	12,901.67		
				$13,754.36
				$194,745.92

E. & O. E.
(Signed) R. L. MACMURDO, *Sec'ty.*

(Endorsed:) In pencil: Street service & pumping service Filed Jul- 9, '98 Porter Parker.

(Stamped:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence, Nov. 9, '99. A. H. Flemming, deputy clerk. In blue pencil: 6.

128 NEW ORLEANS, *June 29th*, 1898.

R. E. Craig, Esq., president. (5)

DEAR SIR: Please allow me to withdraw my report containing the item "pumping service" in statement of "operating expenses" furnished you a few days ago, as in that report made hurriedly I have added "coal consumed" which is not a part of the cash expenditures and does not appear in our annual reports except as a memorandum item. The total sum thus inadvertently added amounts to $159,784.14. For details see annual reports of 1882 to 1898 inclusive. The amount paid for "coal purchased" annually does appear in the annual report and is included in the report of "operating expenses" which I prepared for you then and now. I also desire to withdraw statement of "dividends declared annually" and herewith substitute a corrected statement.

Respectfully,
(Signed) R. L. MACMURDO, *Sec'ty.*

(Endorsed:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99. A. H. Flemming, deputy clerk. In blue pencil: 5.

Operating Expenses.

Year ending—	Pumping service.	Hydrant service.	Street ser.—repairs.	Office expenses.	All other expenses.
Ap'l 9, '79	$18,884.79	$5,675.48	$5,384.34	$10,260.00	$1,674.00
" 9, '80	20,987.68	5,407.00	5,134.23	10,186 03	1,581.64
			(4)		& coal, 1,718.99
" 9, '81	24,184.01	5,479.00	3,648.01	16,622.78	3,293.94
					& coal 1,718.99
" 8, '82	9,813.75	5,738.20	4,296.85	11,219.78	22,973.11
					& coal 18,239.68
" 8, '83	9,967.39	6,506.10	5,725.56	6,140.44	3,909.86
					& coal 7,136.73
" 8, '84	11,213.91	7,808.80	5,146.97	5,930.33	5,519.29
					& coal 15,142.06
" 8, '85	12,667.60	9,194.44	7,682.92	6,534.95	2,833.72
					& coal 7,651.46
" 8, '86	12,535.28	8,874.22	6,957.24	8,808.17	8,161.72
					& coal 6,828.94
" 7, '87	11,451.64	7,565.25	7,033.30	8,549.15	6,607.05
129					" coal 9,697.00
Ap'l 7, '88	12,127.49	8,850.54	6,932.05	10,245.45	6,133.84
					& coal 7,709.26
M'ch 31, '89	12,295.17	7,804.05	5,264.33	8,597.45	6,536.01
					& coal 7,717.99
" 31, '90	13,428.78	9,029.72	7,201.15	10,589.51	7,327.29
					& coal 11,047.04
" 31, '91	14,147.46	9,006.68	8,075.01	10,846.49	4,275.40
					& coal 9,109.01
" 31, '92	13,560.64	9,095.70	7,384 04	10,414.84	11,116.04
					& coal 12,494.11
" 31, '93	12,631.38	9,451.06	9,012.12	10,129.58	3,512.72
					& coal 15,872.54
" 31, '94	14,033.79	10,345.08	8,803.30	10,157.75	2,567.61
					& coal 6,506.86
" 31, '95	13,395.22	10,699.95	11,317.21	11,023.60	3,594.57
					& coal 6,613.94
" 31, '96	12,673.45	11,354.22	18,024.67	12,004.14	4,513.19
					& coal 7,228.47
" 31, '97	13,964.90	11,240.95	13,498.56	12,166.78	2,134.53
					& coal 5,988.70
" 31, '98	14,940.45	12,971.00	11,212.69	11,961.33	2,006.45
					& coal 8,020.28

E. & O. E.
(Signed) R. L. MACMURDO, *Sec'y.*

(Endorsed:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99. A. H. Flemming, deputy clerk. In blue pencil: 4.

130 *Dividends Declared Annually.*

Ap'l	23, '79	$2.00	per share		$40,000.00				
"	23, '80	2.50	"		50,000.00				
"	21, '81	2.00	"		40,000.00				7,150.00
"	21, '82	1.50	"		30,000.00				18,278.25
"	11, '83	2.50	"		50,000.00	Ap'l	8, '83	184.98	20,430.00
"	9, '84	3.00	"		60,000.00	"	8, '84	412.03	20,235.00
"	9, '85	3.50	"		110,000.00	"	8, '85	827.48	23,925.00
"	9, '86	3.00	"		80,000.00	"	8, '86	457.65	24,415.00
Oct.	6, '86	2.00	"						
Ap'l	1, '87	2.00	"		80,000.00	"	7, '87	84.47	25,530.00
Oct.	5, '87	2.00	"						
Ap'l	10, '88	2.00	"		80,000.00	"	7, '88	5.95	20,415.00
Oct.	3, '88	2.00	"						
Ap'l	3, '89	2.00	"		80,000.00				19,620.00
Oct.	2, '89	2.00	"						
Ap'l	2, '90	2.00	"		80,000.00	M'ch 31, '90		7:3.56	23,505.00
Oct.	6, '90	2.00	"						
Ap'l	1, '91	2.00	"		80,000.00				23,535.00
Oct.	7, '91	2.00	"				(3)		
Ap'l	6, '92	2.00	"		80,000.00				20,045.00
Oct.	5, '92	2.00	"						
Ap'l	5, '93	2.50	"		100,000.00	M'ch 31, '93		513.32	23,730.00
Oct.	4, '93	2.50	"						
Ap'l	4, '94	2.50	"		100,000.00				29,890.00
Oct.	3, '94	2.50	"						
Ap'l	3, '95	2.50	"		100,000.00	M'ch 31, '95		1,836.00	30,070.00
Oct.	5, '95	2.50	"						
Ap'l	1, '96	2.50	"		100,000.00	" 31, '96		2,672.10	36,080.00
Oct.	7, '96	2.50	"						
Ap'l	7, '97	2.50	"		100,000.00	" 31, '97		7,751.19	36,365.00
Oct.	6, '97	2.50	"			" 31, '98		7,555.15	36,020.00
					$1,440,000.00			*23,033.88	*435,238.25

23,033.88*
435,238.28*

458,272.16*

E. & O. E.
(Signed) R. L. MACMURDO, *Sec'ty.*

(Endorsed:) In pencil: Operating expenses Filed July 1, '98. Porter Parker.

Stamped: Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence, Nov. 9, '99. A. H. Flemming, deputy clerk. In blue pencil: 3.

[* In pencil in copy.]

131 *Operating Expenses.*

Year ending—	Pumping service.	Hydrant service.	Street ser.—repairs.	Office expenses.	All other expenses.
Ap'l 9, '79	$18,884.79	$5,675.48	$5,364.34	$10,260.00	$1,674.00
" 9, '80	20,987.68	5,407.00	5,134.23	10,186.03	1,581.64
					& coal, 1,718.99
" 9, '81	24,184.01	5,479.00	3,648.01	16,622.78	3,298.94
					& coal, 1,718.99
" 8, '82	20,719.60	5,738.20	4,296.85	11,219.78	22,973.11
					& coal, 18,239.68
" 8, '83	20,159.11	6,506.10	5,725.56	6,140.44	3,908.86
					& coal, 7,136.73
" 8, '84	21,385.11	7,808.80	5,146.97	5,930.33	5,519.29
					& coal, 15,142.06
" 8, '85	22,838.80	9,194.44	7,682.92	6,534.95	2,833.72
					& coal, 7,651.46
" 8, '86	21,332.38	8,874.22	6,957.24	8,808.17	8,161.72
			(2)		& coal, 6,828.94
" 7, '87	20,093.14	7,565.25	7,033.30	8,549.15	6,607.05
					& coal, 9,697.00
" 7, '88	21,608.10	8,850.54	6,932.05	10,245.45	6,133.84
					& coal, 7,709.26
M'ch 31, '89	19,247.49	7,804.05	5,264.33	8,597.45	6,536.01
					& coal, 7,717.99
" 31, '90	22,479.10	9,029.72	7,201.15	10,589.51	7,327.29
					& coal, 11,047.04
" 31, '91	23,985.69	9,006.68	8,075.01	10,846.49	4,275.40
					& coal, 9,109.01
" 31, '92	27,815.70	9,095.70	7,384.04	10,414 84	11,116.04
					& coal, 12,494.11
" 31, '93	28,240.86	9,451.06	9,012.12	10,129.58	3,512.72
					& coal, 15,872.54
" 31, '94	21,480.79	10,345.08	8,803.30	10,157.73	2,567.61
					& coal, 6,506.86
" 31, '95	20,379.12	10,699.95	11,317.21	11,023.60	3,594.57
					& coal, 6,613.94
" 31, '96	18,889.26	11,354.22	18,024.67	12,004.14	4,513.19
					& coal, 7,228.47
" 31, '97	20,919.38	11,240.95	13,498.56	12,166.78	2,134.53
					& coal, 5,988.70
" 31, '98	22,127.46	12,972.09	11,212.69	11,961.33	2,006.45
					& coal, 8,020.28

(Endorsed:) In pencil: Operating expenses. Filed June 23, '98. Porter Parker. Marked in blue pencil: 2 Stamped: Civil district court for the parish of Orleans. No. 58345, State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Nov. 9, '99. A. H. Flemming, deputy clerk.

132 *Letter from A. C. Bell, City Engineer, Offered in Evidence by Plaintiff.*

Filed November 9th, 1899.

A. C. Bell, city engineer. Geo. H. Grandjean, chief clerk.

Office of city engineer, room 19, city hall.

NEW ORLEANS, *June 16th*, 1898.

Hon. Sidney Story, councilman, city.

DEAR SIR: Complying with your verbal request I herewith submit an estimate of 580 miles of streets in the improved or built-up portion of the city of New Orleans, on the left bank of the river. To April 1st, 1898, the water works company laid in the streets of New Orleans on the left bank of the river, 121.5 miles of water mains of different sizes, which is twenty-one (21%) per cent., or about $\frac{1}{5}$ of the amount of mains necessary to properly distribute water to the built-up portion of the city. Trusting this is the information desired,

Respectfully,

(Signed) A. C. BELL, *City Eng'r.*

Copy of Concurrent Resolutions.

Filed in evidence Nov. 9th, 1899.

UNITED STATES OF AMERICA, }
State of Louisiana. }

I the undersigned secretary of state of the State of Louisiana, do hereby certify that—

133 S. C. C. Res. No. 5, by Mr. Denechaud (No. 5).

Concurrent Resolution.

Whereas, the supreme court of Louisiana has decided that the New Orleans Water Works Company has violated the terms of its franchise in charging consumers a higher rate than the franchise granted them by the State allowed them to do; and,

Whereas, there exist- a general complaint of the quality and quantity of water supplied by said company.

Be it resolved by the senate, the house of representatives concurring therein, That a committee composed of five members be constituted, two of said members to be appointed by the president of the senate, and three to be appointed by the speaker of the house of representatives, with instructions to investigate the above-mentioned complaints and the methods of operation of said New Orleans Water Works Company, and

Be it further resolved, That the committee report back to the Gen-

eral Assembly such action as they may deem necessary for public interest in the premises.

S. P. HENRY,
Speaker of the House of Representatives.
R. H. SNYDER,
Lieutenant Governor and President of the Senate.

Approved June 9th, 1898.

MURPHY J. FOSTER,
Governor of the State of Louisiana.

A true copy.
JOHN T. MICHEL,
Secretary of State.

of which the foregoing is a true and correct copy, was duly promulgated this 15th day of June, 1898.

Given under my signature authenticated with the im-
[SEAL.] press of the seal of the State of Louisiana, city of Baton Rouge, this fifteenth day of June A. D. 1898.

(Signed) JOHN T. MICHEL,
Secretary of State.

134 (Endorsed:) In pencil: Certified copy of joint resolution. (Stamped:) Civil district court for the parish of Orleans, No. 58345, State of Louisiana *vs.* New Orleans Water Works Co., Filed in evidence Nov. 9, '99 A. H. Flemming, deputy clerk. In blue pencil: 13.

135 *Peremptory Exception.*

Filed November 13th, 1899.

Civil District Court for the Parish of Orleans, Division E.

THE STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Peremptory exception.

And now comes the defendant herein, The New Orleans Water Works Company, by its undersigned attorneys, and for peremptory exception to said plaintiff's action and demand, herein pleads the statutory prescription of one, two, three, five, and ten years acquired, effectual and accrued prior to the time when the existing constitution had the force and effect of law, and prays that this exception be maintained and plaintiff's demand and action be adjudged against and dismissed with costs.

J. R. BECKWITH,
FARRAR, JONAS & KRUTTSCHNITT,
E. HOWARD McCALEB,
Attorneys for Defendant.

(NOTE.—Filed during the trial.)

136 *Resolutions of the Orleans Parish Medical Society, Offered in Evidence by Plaintiff.*

Filed Nov. 15th, 1899.

Petition for an Improved Water Supply for the City of New Orleans.

To the honorable members of the General Assembly of the State of La.:

At a meeting held in New Orleans, June 25th inst., by the Orleans Parish Medical Society, it was resolved that it was the unanimous sense of said society, that the water supply of the city of New Orleans now provided by the New Orleans water works was both deficient in quantity and defective in quality—

Resolved, That in order to remedy the above-mentioned inadequacy of supply, there be adopted such measures as will effect and permit more forcible pressure and a larger and more extended distribution of water.

Resolved, That the second defect, to wit: the quality of the water, can be remedied by the employment of an efficient system of clarification whereby the visible impurities can be removed.

Resolved, That the water of the Mississippi, when properly treated, can be made pure and wholesome as a drink, available for bathing and domestic use, and being thus improved can favorably compare with that of most cities of the world.

Resolved, That in preference to any other, the water of the Mississippi, when purified by clarification and more abundantly provided, should be the only water used for public distribution in this city.

(Signed) JOHN CALLAN, M. D.,
President Orleans Parish Medical Society.
C. J. MILLER, M. D., *Secretary.*

Rule of New Orleans Water Works Against Paul O. Guerin, Clerk of the Civil District Court, and Frank Marquez, Civil
137 *Sheriff for the Parish of Orleans.*

Filed November 16th, 1899, and entered on minutes of same date, "*nunc pro tunc*," as of date November 15th, 1899.

Civil District Court, Parish of Orleans, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

On motion of J. R. Beckwith, Farrar, Jonas & Kruttschnitt, and E. H. McCaleb, attorneys for defendant, and on suggesting to the court that Paul O. Guerin, clerk of this honorable court, and Frank Marquez, civil sheriff of the parish of Orleans, decline and refuse to file documents, make service of process, and render the other services

pertaining to their respective offices, and the performance of which has been requested by defendant in this cause, and announce and declare their intention of persisting in such refusal unless the costs alleged by them to be due for their respective services be paid to them in advance and on further suggesting to the court that this cause is one instituted and prosecuted by the attorney general, and that under and by virtue of section 2, of act No. 65, of 1884, the defendant in such cause is dispensed from giving security for costs, or advancing costs:

It is ordered by the court that said Paul O. Guerin, clerk of this honorable court, and that said Frank Marquez, civil sheriff of the parish of Orleans, do show cause forthwith, why he the said clerk, should not file any and all documents to him tendered by defendant without prepayment of or giving security for costs, in like manner as said documents would be filed, or said services would be rendered upon payment of costs in cases where payments of costs is required by law and why he, the said Frank Marquez, civil sheriff of the parish of Orleans, should not serve any and all papers or processes,
138 and render any and all other services requested of him by defendant and pertinent to the trial of this cause without payment of costs, in like manner as such service of papers, or process, or other services would be rendered in any cause wherein the prepayment of costs is required by law, and why defendant should not have all further and general relief in the premises.

Answer of Frank Marquez, Civil Sheriff, to Motion of Defendant to be Dispensed from Paying Costs.

Filed November 15th, 1900.

Civil District Court, Division E.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

And now into this honorable court, through undersigned counsel, comes Frank Marquez, civil sheriff for the parish of Orleans, and for answer to the motion herein made by the defendant, that it be dispensed from paying costs, during the progress of this suit, adopts in so far as the question of the unconstitutionality of act No. 65, of 1884, is concerned, the answer herein filed by Paul O. Guerin, clerk of the civil district court for the parish of Orleans.

Wherefore respondent prays that the motion of defendant may be denied, that said act No. 65, of 1884, or at least the second section thereof, be declared unconstitutional, null and void.

And respondent prays for general relief.

(Signed) DINKELSPIEL & HART, *Att'ys.*

Answer of P. O. Guerin, Clerk of Civil District Court.

Filed November 15th, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

139 And now into this honorable court, through undersigned counsel, comes Paul O. Guerin, clerk of the civil district court for the parish of Orleans, and for answer to the motion herein made by the defendant that it be exempted from paying any costs during the progress of this suit, says:

That under act No. 136 of 1880, which is in full force and effect, except as hereinafter stated, all costs in the civil district court must be paid by the party requiring the services to be done, whether that party be plaintiff, defendant or any other person:

That under that act all costs were required to be paid in judicial stamps, but since the adoption of the constitution of 1898, to wit, since May 12th, 1898, the costs are paid in cash, but with that exception, the said act No. 136 of 1880, remains in full force, and effect; and under the terms of article No. 156, of that constitution the costs received in the office of this appearer are partially dedicated to the payment of the bonds created by that article, which creates a contract in favor of the bondholders;

That act No. 65, of 1884, is unconstitutional, null and void, because in conflict with the constitution of Louisiana of 1879 in force when same was adopted; that said constitution, in article No. 29, provides, that "every law enacted by the General Assembly shall embrace but one object, and that be embraced in the title;" that said act No. 65 purports to provide in its second section that "defendants shall not be required to give security for costs or advance costs in any case in which suit is brought by the State;" that this section of the law provides for something different than that contained in the first section and is in nowise referred to in the title of the act, which simply reads: "To empower the attorney general to institute and prosecute suits without security or advance costs and without bond;" that the provision of article No. 29, of the constitution of 1879 is mandatory, and any enactment of the legisla-

140 ture which violates it is null, and therefore said act No. 65, if not entirely unconstitutional, is clearly unconstitutional as to the second section thereof, which is the one upon which the defendant now claims the action of the court.

Wherefore respondent prays that the motion of the defendant may be denied, and that the court may declare act 65 of 1884, or at least the second section thereof, as unconstitutional, null and void.

And respondent prays for general relief.

(Signed) DINKELSPIEL & HART, *Att'ys.*

Answer of James W. Kelly, Recorder of Mortgages.

Filed November 15th, 1900.

Civil District Court, Division E.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

And now into this honorable court, through the undersigned counsel, comes James W. Kelly, recorder of mortgages for the parish of Orleans, and for answer to the motion herein made by the defendant, that it be dispensed from paying costs during the progress of this suit, adopts in so far as the question of the unconstitutionality of act No. 65, of 1884, is concerned, the answer herein filed by Paul O. Guerin, clerk of the civil district court for the parish of Orleans.

Wherefore respondent prays that the motion of defendant may be denied, and that said act No. 65, of 1884, or at least the second section thereof, be declared unconstitutional, null and void, and for general relief.

And respondent prays for general relief.

(Signed) R. H. BROWNE,
Att'y for Rec'r of Mortgages.

141 *Correspondence Between H. L. Favrot and New Orleans Water Works Company, Marked* 365, 366, *& 367, Offered in Evidence by Plaintiff. Filed November 15th,* 1899.

OCT. 23RD, '94.

New Orleans Water Works Co., city :

As attorney represents Mrs. C. Favrot on Henry Clay near St. Charles, I desire to make a formal complaint against the water service which has been duly paid for, for the ensuing year. Not a day passes but for several hours the water is completely shut off from these premises, and not a drop has been available through your pipes since yesterday morning at seven o'clock. Therefore please consider this a formal notice, putting you in default for failure to furnish us with a much-needed commodity which has been duly paid for, and take notice that unless relief is duly forthcoming it shall be necessary for Mrs. Favrot to make reclamation against — company for such suffering, inconvenience and damage as your laches will entail.

Respectfully,
(Signed) H. L. FAVROT.

OCT. 24TH, 1894.

N. O. Water Works Co., city.

DEAR SIR: Yours of date Oct. 23d '94 is received and contents noted—neither Mrs. Favrot, nor I, have anything to do with your

inability to supply water that you have contracted to furnish. You have been paid and we want water or we propose to hold you responsible for lack thereof. I don't propose to receive your check and thereby relieve you of liability which your letter admits. If you allow others to make unlawful use of your hydrants and pipes
it is no concern of ours, all we know is that we can get our
142 closet supply only from you, you have been paid to furnish
it, we have no other water that we can use and we propose to know the reason why we shall not hold you to your agreements. Therefore we give you two days from date to furnish us with full and uninterrupted supply of water at the end of which time we will take necessary and proper action against you for damages in default thereof, reserving the right to make claims for damages already done.

Resp'y,
(Signed) H. L. FAVROT.

OCT. 26, '94.

N. O. Water Works Co., 49 & 51 Baronne St., city.

DEAR SIR: We must certainly thank you for giving us water in the hydrant in the yard but respectfully notify you that there is as yet no water for the closet at Mrs. Favrot's house Henry Clay near St. Charles. The hydrant in yard began running fairly well yesterday.

Very respectfully,
(Signed) H. L. FAVROT.

Rule of State of Louisiana Against Defendant Company for Production of Books.

Filed November 15th, 1899, and entered on minutes of same date.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs. } No. 58345.
NEW ORLEANS WATER WORKS COMPANY.

On motion of Milton J. Cunningham, attorney general, and Benjamin Rice Forman of counsel, and on suggesting to the
143 court that The New Orleans Water Works Company, defendant herein, has in its possession certain books, documents and records, which are material to this cause, and which are needed by plaintiff herein.

And on further suggesting to the court, that said books, records, documents etc., are the inspection blanks, books of record kept by the said company, in which are set forth in detail the various inspections made by its employees, of the premises in the city of New Orleans, whose numbers, and the owners and occupants of whom are set forth in the hydrant ledgers produced by said company and which are now in this court.

And on further suggesting, that plaintiff in this cause expects to prove by said books, records and documents, etc., in conjunction with the hydrant ledgers now in this court, the fact that the charges exacted by said company from its customers are grossly irregular, unfair to some, and discriminative and not equal or uniform, illegal and not according to its charter.

It is ordered, that the defendant, The New Orleans Water Works Company produce into this court on the 16th November 1899 and on other days to which this cause may be continued, all the books, papers, documents, inspection blanks, and other records of the New Orleans Water Works Company, containing the reports of its employees, giving the result of its inspection of the various households in this city, of which the names and locations are mentioned in the hydrant ledgers of the company already produced and now in the possession of the clerk of this court.

Exception of N. O. Water Works Co. to Order to Produce Books.

Filed November 16th, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

144 Now comes defendant, through J. R. Beckwith, Farrar, Jonas & Kruttschnitt, and E. Howard McCaleb, its attorneys, and for return to the order rendered in this cause on the 15th day of November 1899, requiring defendant to produce certain books, papers and documents in court on this day says:

That defendant excepts to said order, and prays that the same be quashed, annulled and set aside, for this, to wit:

1st. That the same was improvidently granted, and granted without compliance with the provisions of article 140 of the Code of Practice of this State, or with any other provision of the laws of the State of Louisiana; that in and by said laws, the right to the production of such books, papers and documents, called for, is subject to the proviso that their production be requested in writing, and on oath, with a statement, under oath of the specific facts intended to be established by such books papers or other documents, and that no such oath has been made in this cause, nor have the facts expected to be proved, been set forth, with the specification required by law, nor have the books or papers been described with sufficient accuracy to require their production.

2nd. That the production of said books and papers will result in the absolute paralysis and cessation of the business of defendant; that the right to the production of books, papers and other documents, in the possession of the adverse party to a cause is one resting in the sound discretion of the court according to circumstances, and

one to receive a reasonable construction, and to be given such construction as will not operate seriously to the detriment of commerce, or to the pecuniary injury of a party; that defendant is, and has, at all times been ready and willing to give the freest and fullest access to plaintiff to any and all books, papers and documents in its possession; that such documents are, and at all times have been subject to inspection by the public authorities provided by law, and that defendant therefore has no motive or desire to conceal any of
145 the contents of the same but that defendant has the right, in case any of its books, or documents be used in evidence, to restrict the use of such books and documents to those which may be material to the issues pending before this honorable court, and to exercise the election which it has under the laws of this State, to demand the substitution of certified copies for originals, which right is entirely denied to it if all of the records of its office, regardless of relevancy, are to be produced and offered in evidence in globo.

3rd. That this cause is one for the forfeiture of the charter of defendants and is one criminal and highly penal in its nature; that in and by article II of the constitution of the State of Louisiana for the year 1898, it is provided that "no person shall be compelled to give evidence against himself in a criminal case or in any proceedings that may subject him to criminal prosecution except as otherwise provided in this constitution." And that nowhere in said constitution is there any exceptional proviso taking away from defendant the protection of said article II; and that in and by article 4 of the amendments to the Constitution of the United States the right of the people to be secure in their persons, houses, papers and effects against unreasonable searches and seizures is protected against violation. And that in and by the fifth amendment to the Constitution of the United States it is provided that no person shall be compelled in any criminal case to be a witness against himself.

That the said order of this honorable court is violative of both said articles of the constitution of the State of Louisiana and said articles of the amendments to the Constitution of the United States which are expressly pleaded as causes of nullity of said order.

Continued.

Extract from Minutes, Div. "E."

TUESDAY, *November* 21*st*, 1899.

Present: Hon. Geo. H. Theard.

146 This cause came on this day for further trial.

Present: B. R. Forman Esq., for plaintiff J. R. Beckwith, E. H. McCaleb & E. B. Kruttschnitt Esq. for defendant, B. K. Miller Esq., for intervenor, The Board of Liquidation of City Debt. J. J. McLoughlin Esq., for intervenor, The City of New Orleans.

And after hearing further evidence the court ordered the matter continued to Wednesday November 22nd, 1899 at 11 a. m. for further evidence.

Rule of Defendant Company against the Clerk & Civil Sheriff Dismissed.

Extract from Minutes, Div. "E."

TUESDAY, *Nov.* 21, 1899.

Present: Hon. George H. Theard, judge.

In the matter submitted to the court on the application of the defendant company filed November 16th 1899 "*nunc pro tunc*" as of the date November 15th 1899, claiming the benefit of section 2, of act 65 of 1884, and praying the court to order its clerk and the civil sheriff to file documents, make service of process, and perform other necessary services for defendant, without requiring from it security for costs, or payment thereof in advance, for the reasons assigned in the written opinion of the court this day delivered and filed:

It is ordered that the said application of the defendant, The New Orleans Water Works Company, be denied.

Reasons for Judgment Dismissing Rule Against Clerk & Civil Sheriff.

Filed Nov. 21st, 1899.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

147 Reasons for judgment.

The defendant company, claiming the benefit of section 2 of act No. 65 of 1884, has moved the court to order its clerk and the civil sheriff to file documents, make service of process, and perform other necessary services for defendant, without requiring from it security for costs or payment thereof in advance.

The clerk of the court and the civil sheriff have appeared in opposition to the motion and have answered, pleading the unconstitutionality of act 65 of 1884, and particularly of section 2 thereof, as being violative of article 29 of the constitution of 1879, which was the original law at the time of its enactment.

The clerk further pleaded that under act No. 136 of 1880 which is in full force and effect except as hereinafter stated, all costs of the civil district court must be paid by the party requiring the services to be done, whether that party be plaintiff, defendant, or any other person; that under that act all costs were required to be paid in judicial stamps, but since the adoption of the constitution of 1898—to wit May 12th, 1898, the costs are paid in cash; that, with that exception the said act No. 136 of 1880 remains in full force and effect and under the terms of article 156 of that constitution the

costs received in the office of the clerk of this court are partially dedicated to the payment of the bonds created by that article, which creates a contract in favor of the bondholders.

The recorder of mortgages, whose fees are paid out of the same fund as the clerk of the court, has also appeared and joined in the defense assailing the constitutionality of the act of 1884.

That act is an act entitled "An act to empower the attorney general to institute and prosecute suits without security or advance costs, and without bond" and is in the following words.

148 "SECTION 1. Be it enacted by the General Assembly of the State of Louisiana, That attorney general be, and he is hereby authorized and empowered to institute and prosecute any and all suits he may deem necessary for the protection of the interest and rights of the State; and no court of this State, nor officers thereof, shall demand of the State or the attorney general, any security for costs, or any advance costs; but all costs for which the State may become liable shall be paid by the attorney general out of the proper appropriation therefor. That in any and all cases where bond is required by law in legal proceedings, the State and the attorney general shall be dispensed from giving such bond.

"SECTION 2. Be it further enacted etc., That the defendant shall not be required to give security for costs, or to advance costs in any case in which suit is brought by the State."

The contention of the clerk, sheriff and recorder regarding that act is that its second section is violative of article 29 of the constitution of 1879, which provides in a mandatory way that "every law enacted by the General Assembly shall embrace but one object, and that shall be expressed in the title," in this: That said second section provided for something different from what is contained in section 1, and which is not referred to in the title of the act. The contention in other words, is that section 2 is broader than the title, and should be read out of the act.

On behalf of the defendant company it is argued, however, that act No. 65 of 1884 "is substantially nothing more or less than an act amending the cost-bill act of the parish of Orleans (act 136, of 1880), and providing that in State cases the attorney general shall not pay costs, nor give security to the defendant for costs, provided the defendant shall not be called upon to pay costs in those cases; that if the original cost act did not embrace two objects, then an act amendatory to that act did not embrace two objects; and the

149 act of 1884 is nothing more nor less than an act amendatory of the cost act of 1880, and providing for the manner in which costs shall be paid in State suits; and that the exemption of the defendant from the payment of costs follows as a mere corollary to the relief granted to the State which is exempted from giving security to the defendant for costs."

This argument of the learned counsel for the defendant would be entitled to much weight, were the object of the act of 1884 to be ascertained from its context. The two sections of the act convey, in unmistakable language, the intention of the legislature to dispense

both the plaintiff and the defendant in suits brought by the attorney general on behalf of the State from giving security for costs, or from making prepayment thereof, and thus to amend, by implication, section 3 and 4 of act 136 of 1880, the former of which required the payment of costs in advance by the party, whether plaintiff, defendant, or other person requiring the service, and the latter gave to the defendant the right to require from the plaintiff security for reimbursement of costs prepaid, in case the demand was rejected. (These sections of the cost act, be it said, are still in force, save that, under the present constitution, prepayment of costs must be made in cash, instead of stamps, as therein directed.)

The legislative mind, in enacting act No. 65, may well have been impressed with the consideration, that while, in aid of the judicial fund created by article 146 of the constitution of 1879, and perpetuated by article 158 of the constitution of 1898, the sovereign should not be freed from the payment of costs in its own courts; still, the fact that it was not an ordinary individual, with a private coffer accessable at all times, but that its moneys could be reached only through appropriations made by the legislative body, should not be overlooked, and that to compel the State to advance costs, and to give security therefor, like an ordinary litigant, might lead to a miscarriage of justice. It might, with equal propriety
150 have appeared inequitable to the legislative mind to compel a defendant to give bond or to advance costs in cases where he could not recover them directly from the State when cast, and had to await proper appropriation therefor by the law-making power.

But it is not in the body of an act that its objects must be sought. Under our fundamental law the only index to legislative intent is the title of an act. The provisions of article 29 of the constitution of 1879 the organic law under which act 65 of 1884 was passed, are mandatory. Every law enacted by the General Assembly shall embrace but one object, and that shall be expressed in the title. 38 A. 689, State *vs.* Heywood.

These provisions are not new: They are to be found in prior constitutions of this State and in the constitutions of many of the other States of the Union, and have been frequently interpreted by the commentators and by the courts. Mr. Sedgwick referring to them says: "Great abuses have been found to result from a practice of ancient date of incorporating in the same bill subjects of a very heterogeneous nature, resorted to, either for the purpose of surprising the good faith of the law-making body, or of enlisting hostile interests in support of the proposed acts. To put a stop to this practice, many of the States of the Union have incorporated in their fundamental laws the provision necessary to guard against same." Sedgwick on Construction, 567, and note.

"The framers of the constitution meant to put an end to legislation of the vicious character referred to, which was little less than a fraud upon the public, and to require that, in every case, the proposed measure should stand upon its own merits, and that the legislature

should be fairly satisfied of its designs, when required to pass upon it." 13 Michigan, 494; 2 Iowa, 282: and other authorities. Cooley on Constitutional Limitations, p. 143.

"The universal tenor of the decisions in this and other
151 States, established that the mischiefs designed to be prevented by the provisions are: First: to obviate confusions in legislation by mingling in the same act entirely distinct and heterogeneous provisions; Walker *vs.* Caldwell, 44 A. 298; second to prevent hodge-podge or log-rolling legislation, bringing together in one bill diverse subjects with a view to combine in the support of the entire bill the advocates of each particular provision, People *vs.* Mahaney, 13 Michigan, 494; third, to prevent surprise or fraud upon the legislature or the people by inserting provisions into bills of which the title gave no intimation, and which might therefore be carelessly and unintentionally adopted—13 Michigan 494." State *vs.* Henderson, 32 A. 779.

Out of the large number of adjudications expounding the views thus stated the following will prove instructive as bearing more particularly upon the question at issue—namely the imperative necessity of indicating in the title the whole purpose of the act:

Succession of Irwin 33 A. 63; where it was held that certain provisions creating a new drainage district and authorizing the institution of extraordinary proceedings to coerce the payment of the drainage tax were unconstitutional, inserted in an act the title of which was simply to provide for the drainage of New Orleans.

Also, State *vs.* Wardens of Cathedral, 23 A. 720; where it was held that in the title of "An act to provide a revenue to levy and collect taxes, to grant and collect licenses, to provide for the creation appointment and removal of revenue officers, and to define their duties to punish certain crimes and misdemeanors, and to create liens and mortgages in favor of the State in certain cases; to regulate the manner of the payment of moneys from the treasury." There was nothing to indicate the intent to extend the jurisdiction of the third district court to suits for the collection of taxes; and that a provision to that effect was void although the constitution of
152 1868, then in existence permitted more than one object to be embraced in one law.

Also, Wisner's Curator *vs.* Mayor and Council of Monroe 25 A. 598; where it was held that, under a statute purporting to amend only the first section of a statute, it is not competent to amend other sections of said act; such amendments, not being covered by the title are null and void.

Also Heirs of Duverge *vs.* Salter, 5 A. 94; where it was held that "An act to give jurisdiction to the district court of New Orleans over causes arising under the act of 3rd March 1819 respecting landlords and tenants," was null and void, as its title did not express its object, which was as the court finds, to subject tenants to stringent, summary and unusual process.

Again, in State *ex rel.* Arnold Lewis, *vs.* Judge, 44 A. 90,—the title of the act assailed for unconstitutionality was: "To enforce

labor, contracts and to provide a penalty for the willful violation thereof, and to make it a misdemeanor for persons not parties to said contracts to wilfully interfere therein and to provide for punishment thereof." Section 1 of the act under which the defendant was indicted provided that "whoever shall wilfully violate a contract, upon the faith of which money or goods have been advanced shall be deemed guilty of a misdemeanor etc." The contention was that the title referred to "labor contracts" whereas the section quoted provided for a violation of a contract, omitting the word "labor" before the word "contract."

Says McEnery, judge: "When the title indicates the object and purpose of the law, it is sufficient. It was the intention of the law to punish the violation of labor contracts. Nothing is said in the first section of the act about labor contracts. The title of the act is restricted to this particular kind of contract. The body of the act refers to all contracts. Any one who is not a laborer and who makes a contract upon the faith upon which money is advanced or goods delivered, is subject to an indictment for the violation
153 of section 1. It is evident that there is a wide difference in the meaning and the object to be attained as expressed in the title and the law. It clearly violates article 29 of the constitution.

These adjudications and the many others that could be added, if necessary uniformly hold that, not only must the title correctly indicate the purpose of the law but that the title must control to the extent of excluding everything from effect and operation, as law, which is incorporated in the body of the act but is not within the purpose indicated by the title.

Tested by this rule of construction, how can the constitutionality of section 2 of act 65 be upheld? The title states the sole purpose of the act to be "to empower the attorney general to institute and prosecute suits without security or advance costs and without bond." Who could guess, from this title that it was the intention of the framers of the act to also dispense the defendant in State suits brought by the attorney general from giving security or advancing costs? Might not with justice, the members of the legislature plead surprise and assert that had their attention been directed to the proposed exemption of the defendant they might have voted against it? It does not follow that because the legislature, in fastening upon the sovereign State the obligation to pay costs in its own courts, choose for obvious reasons to exempt from payment thereof in advance, they would have been disposed to extend to another litigant a like exemption in derogation of common right. How then, give effect to section 2, when it appears to have been inserted carelessly and without previous notice to the law-makers, and when the full purpose announced by the title can be carried out by simply striking out the obnoxious section and permitting section 1 to stand alone.

True, it was competent for the General Assembly to include the defendant in the exemption from advancing costs or giving any

security, contemplated by the statute in controversy. Had
154 the title been "An act to dispense both the attorney general and the defendant in suits brought by the former in behalf of the State from giving security or advancing costs;" or had the title of act 65 been so amplified as to read "An act to empower the attorney general to institute and prosecute suits on behalf of the State, without security or advance costs and without bond, and to enable the defendant in such suits to defend the same without security or advance costs," the title would not have been assailable for duplicity nor would section 2 have been beyond its scope.

But it is precisely because the General Assembly restricted the operation of the statute, that the court cannot enlarge it. To broaden the scope of the object disclosed by the title so as to embrace within it the defendant as well as the plaintiff in State suits, would be to lend the aid of the court to the violation of the constitutional mandate.

The court's duty in such cases is to ignore extraneous matter and respect only such provisions as are covered by the title. Says Cooley, in his oft-quoted work on Constitutional Limitations at page 149: "As the legislature may make the title of an act as restrictive as they please, it is obvious that they may sometimes so frame it as to preclude many matters being included in the act which might with entire propriety have been embraced in one enactment with the matters indicated by the title but which must now be excluded because the title has been made unnecessarily restrictive. The courts cannot enlarge the scope of the title; they are vested with no dispensing power, the constitution has made the title the conclusive index of the legislative intent, as to what shall have operation; it is no answer to say that the title might have been made more comprehensive, if in fact the legislature have not seen fit to make it so. Thus 'An act concerning promissory notes and bills of exchange' provided that all promissory notes, bills of exchange or other negotiable instruments in writing * * * should be negotiable, and assignees of the same might sue thereon in their own names.

It was held that this act was void as to all the instruments
155 mentioned therein, except promissory notes and bills of exchange; though it is obvious that it would have been easy to frame a title to the act which would have embraced them all, and it would have been unobjectionable." Thus, also, in upholding the constitutionality of the act organizing the criminal district court, the Supreme Court held that so much of said act as provided for the drawing of juries in civil cases should be considered as not written. 33 A. 782—State *vs.* Crowley.

My opinion, therefore, is that section 2, not being covered by the title of act 65 of 1884, is inoperative, and as though not written, and that defendant can claim no benefit thereunder. This conclusion, which has not been reached without that reluctance with which judges set aside solemn legislation enactments is fortified by the consideration that, although act 65 has stood upon the statute book for more than fifteen years, this is the first time, to the court's

knowledge, that a defendant has sought to avail himself of its provisions. It is but recently that protracted and costly trials were had in the cases known as the "Debenture cases" and in not a single one did the defendant corporation impleaded by the State object to advancing costs; and a casual look at the record in this case will show, that it was not until after it had recognized the right of the clerk to insist upon prepayment of costs for filing its appearances by way of exceptions and answers, that the thought seems to have occurred to the defendant that it was a privileged litigant, not subject to the provisions of the cost act of 1880.

For these reasons the motion is denied.

November 21st, 1899.

(Signed) GEO. H. THEARD, *Judge.*

Exhibit Marked "Ordway," 388, Offered in Evidence by Plaintiff.

Filed Nov. 16th, 1899.

156 1. 1 lb. of steam at 100 lbs. pressure by the gauge, measures 3.8 cu. ft.

1 lb. of steam at 212° F. measures 27.2 cu. ft.

1 lb. of coal gives 8.5 lbs. steam.

At 100 lbs. pressure this would make $3.8 \times 8.5 = 32.3$ cu. ft. which would expand to $27.2 \times 8.5 = 231.2$ cu. ft.

Amount of expansion $231.2 - 32.3 = 198.9$ cu. ft.

In expanding to the last amount it would exert an average pressure of about 50 lbs. per square inch—7200 lbs. per sq. ft.

Expanding in a cylindar of 1 sq. ft. cross-section it would raise 7200 lbs. 198.9 feet or $\frac{198.9}{100} \times 7200 = 14{,}321$ lbs. 100 feet, theoretically. Practically we must allow about $\frac{1}{3}$ for friction and other drawbacks.

Then we have $\frac{2}{3} \times 14.321 = -9{,}548$ lbs. of water raised 100 feet by 1 lb. of coal.

2.

2. With a good engine and boiler 2 lbs. of coal will give one horse-power per hour.

One horse-power is 33000 lbs. raised 1 ft. per minute or $60 \times 33000 = -1{,}980{,}000$ lbs. per hour. This makes 990,000 lbs. raised 1 ft. by 1 lb. of coal, or 9,900 lbs. of water raised 100 ft. by 1 lb. of coal.

3.

3. It was found by actual experiment at Lawrence, Mass., that with a boiler giving 8.27 lbs. of steam at 90 lbs. pressure for 1 lb. of Cumberland coal, and a compound engine, one pound of coal gave 962000 foot pounds, that is one pound of coal raised 9,620 lbs. of water 100 ft.

(Clark's Manuel of Rules, Gables, &c., p. 948.)

Hence when coal is $3 per ton of 2000 lbs. one cent's worth of coal should raise $9{,}620 \times \frac{20}{3} \times \div 8\frac{1}{3} = 7{,}696$ gallons of water 100 feet.

157 *Exception of Board of Liquidation. Filed November 24th, 1899, nunc pro tunc as of Date November 13th, 1899.*

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Now comes intervenor, The Board of Liquidation of the City Debt, and adopting the peremptory exceptions filed by defendant November 13, 1899, and for peremptory exception to said plaintiff's action and demand herein, pleads the statutory prescription of one, two, three, five and ten years, acquired effected and accrued prior to the time when the existing constitutions had the force and effect of law, and prays that this exception be maintained, and plaintiff's demand and action adjudged against and dismissed, with costs.

(Signed) BRANCH K. MILLER,
Att'y for Intervenor, Board of Liquidation of the City Debt.

158 *Statement of "Bills Payable," Offered in Evidence by Plaintiff.*

Filed Dec. 4th, 1899.

Office of New Orleans Water Works Co., New No. 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, sec'y and treas.

NEW ORLEANS, *June* 20, 1898.

Bills Payable.

1895.			
Nov. 11th.	Demand note at 6% interest.....		$90,000.00
Dec. 10th.	Paid on account.....	$5,000.00	
1896.			
Nov. 16th.	" " "	10,000.00	
21st.	" " "	5,000.00	
Dec. 7th.	" " "	5,000.00	
1897.			
Feb. 9th.	" " "	10,000.00	
M'ch 15th.	" " "	10,000.00	
			45,000.00
			$45,000.00

1898.		
M'ch 8th.	Demand note at 6%.....	15,000.00
		$60,000.00
1896.		
Nov. 16th.	Demand note at 6%.....	50,000.00
		$110,000.00

R. E. Craig, Esq., pres't.

DEAR SIR: Above I hand statement of bills payable and amounts paid on account same.

The item M'ch 8, '98 of $15,000.00 was to pay an overdraft account which has been running for a year or more.

The bonded debt and rate of interest is shown in our annual report of Ap'l 1, '98.

Respectfully

(Signed) R. L. MACMURDO,
Sec'y and Treas.

159 *Statement of City Taxes Paid by New Orleans Water Works Company.*

Filed Dec. 4th, 1899.

Office of treasurer city of New Orleans. Geo. Penrose, treasurer.

NEW ORLEANS, *Nov. 16th*, 1899.

Statement of city taxes paid by the New Orleans Water Works Co.

For the year	1884.....	8,010 66
	1885.....	11,352
	1886.....	9,009 20
	1887.....	8,989
	1888.....	8,989
	1889.....	8,989
	1890.....	8,989
	1891.....	20,200
	1892.....	20,200
	1893.....	22,004
	1894.....	32,704
	1895.....	32,704
	1896.....	32,700
	1897.....	32,700
	1898.....	32,700
Total	.....	$290,239.86

I John W. Watson, chief clerk to the city treasurer hereby certify, that the foregoing is correct according to the books of this office.

(Signed) JNO. W. WATSON.

160 *Statement of Meters in Use, Offered in Evidence by Plaintiff.*

Filed Dec. 4th, 1899.

NEW ORLEANS, *June 22nd*, 1898.

Mr. R. C. Craig, president New Orleans Water Works Co.:

All the data that could be found at hand concerning "the number of meters in use each year" is embraced in the following:

1888	7
1889	22
1890	...
1891	...
1892	86
1893	155
1894	165
1895	173
1896	176
1897	169
1898	174

Respectfully,

E. B. HANDS,
Meter Cl'k.

161 *Statement of Receipts for Sale of Water, Marked* 902, *Offered in Evidence by Plaintiff.*

Filed December 4th, 1899.

Amount water rates paid by private consumers.		Amounts paid by city.	
April 8, '79	$99,717.92		
April 9, '80	91,339.63		
April 9, '81	83,421.16		
April 8, '82	99,964.70		
April 8, '83	111,077.51		
April 8, '84	127,228.50		
April 8, '85	129,876.08	April 8, '85	$17,085.00
April 8, '86	123,228.73	April 8, '86	64,239.60
April 11, '87	123,480.60	April 11, '87	64,239.60
April 7, '88	129,384.98	April 7, '88	64,254.60
March 31, '89	126,639.91	March 31, '89	47,196.00
March 31, '90	142,419.13	March 31, '90	75,826.00
March 31, '91	135,664.61	March 31, '91	65,029.20
March 31, '92	142,925.68	March 31, '92	65,129.30
March 31, '93	130,526.68	March 31, '93	65,896.00
March 31, '94	143,168.85	March 31, '94	66,048.00
March 31, '95	148,489.33	March 31, '95	69,637.00
March 31, '96	151,478.89	March 31, '96	79,319.70
March 31, '97	159,151.73	March 31, '97	92,449.26
March 31, '98	151,572.11	March 31, '98	94,842.00

R. E. Craig, Esq., pres't.

DEAR SIR: The above statement shows the amount collected from private consumers of water each year from Ap'l '79 to March '98 inclusive, also the amounts collected from the city for water supply from Ap'l '85 to March '98 inclusive.

Respectfully,

(Signed) R. L. MACMURDO,
Sec'y & Tres.

162 *Motion of Defendant Company for Subpœna Duces Tecum. Filed Dec. 12th, 1899, and Entered on Minutes of Same Date.*

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

On motion of J. R. Beckwith, Farrar, Jonas & Kruttschnitt and E. H. McCaleb attorneys for defendant, and on suggesting to the court that the Maginnis Cotton Mills, a corporation organized under the laws of this State, and domiciled in this parish, and Ambrose A. Maginnis, in his capacity of president of said corporation, and Charles B. Maginnis, in his capacity of secretary, of said corporation, have in their possession, or under their control, the hereinafter-described books, papers, and documents, which are material evidence, for the defendant upon the trial of this cause;

It is ordered by the court that said Maginnis Cotton Mills, said Ambrose A. Maginnis, president of said cotton mills, and said Charles B. Maginnis, secretary of said cotton mills, do produce in open court at the trial of this cause, on Monday December 18th, 1899, at 11 o'clock a. m., and upon any days thereafter to which trial of said cause may be continued, the following-described books, papers and documents, to wit: Any and all books, papers and documents showing all purchases of coal or other fuel by said corporation, or by either of said individuals, for the use of said corporation, and further, showing the consumption of fuel in the mills of said corporation in the city of New Orleans, during the years 1887 to 1891, inclusive.

O. K. St. Paul.

163 *Motion of Defendant Company for Subpœna Decus Tecum. Filed Jan'y 2nd, 1900, and Entered on Minutes of Same Date.*

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

On motion of J. R. Beckwith, Farrar Jonas & Kruttschnitt and E. Howard McCaleb attorneys for defendant, and on suggesting

that it is important to the defendant in this cause to establish the exact capacity of the steam fire-engines used in New Orleans and the defendant knows of no other way to attain that end except by and from the records and papers of the board of fire commissioners of the city of New Orleans.

It is ordered that the said board of fire commissioners whereof Honorable Walter C. Flower is president and T. J. Moulin is secretary produce in court in this cause on Thursday the 4th day of January 1900 all of the contracts, specifications, written *quarantees* or warrant*ys* in their possession or control, relating to the purchase or acquiring of any and all steam fire-engines that are or have been in public use as such in the city of New Orleans acquired between the date of the organization of the paid fire department of the city of New Orleans and the first day of January 1899, together with all data, papers or records showing or tending to show the capacity of each, all and any of said fire-engines to throw water for the extinguishment of fires and the amount of water required by such engines while in service at fires, and that a writ of *subpœna duca tecum* issue therefor to be served on the said Honorable Walter C. Flower, president and the said T. J. Moulin secretary of said fire commissioners requiring them to produce the same in court on the day and date aforesaid.

164 *Application for Water Supply (Contract with Illinois Central R. R. Co.).*

Filed in evidence Dec. 18th, 1899.

(Application for water supply to New Orleans Water Works Company.)

NEW ORLEANS, *March 6th*, 1893.

The undersigned makes application for water supply for the general purposes and uses of the Illinois Central railroad and the Yazoo and Mississippi Valley railroad for one year from date and for each succeeding year of similar use and supply at the option of said companies applicant.

These roads hereby agree to place meters of suitable size and of a pattern or make acceptable to the water works company on their water service pipes, so that all the water supplied to said roads from the mains of the New Orleans Water Works Company shall be measured.

These meters are to be provided by the applicant roads hereto, and are to be maintained in good order at their expense.

Service pipes, stop-cocks, and all apparatus up to and including tap in street mains are to be maintained in good order by the applicant hereto.

The supply of water under this application is for the ordinary purposes of the railroads applying for same, and gives no right of supply to other persons or for other purposes.

In event of disaster or breakage to the main water pipes of the water works company, it is understood that the said water works company may close off water supply pending repairs without recourse by the party applicant herein for damages of any nature.

The water so supplied or delivered is to be paid for monthly and on the following basis:

It is understood that the consideration for making the following special rates, is the understanding that the applicant railroads are to draw their entire water supply from the mains of the water works company, provided however that said company reserve the right to keep and use cisterns upon and about its premises during this contract:—

165 For first 15,000 gallons in any month for each 1,000 gallons..... 25c.
For excess over this and up to 30,000 gallons in any month, for each 1,000 gallons..... 20c.
For excess over this and up to 60,000 gallons in any month, for each 1,000 gallons..... 18c.
For excess over this and up to 130,000 gallons in any month, for each 1,000 gallons..... 15c.
For excess over this and up to 250,000 gallons in any month, for each 1,000 gallons..... 13c.
For excess over this and up to 500,000 gallons in any one month, for each 1,000 gallons..... 12c.
For excess over this and up to 750,000 gallons in any month, for each 1,000 gallons..... 11c.
For excess over this and up to one million gallons in any month, for each one thousand gallons..... 10c.
For excess over this and up to one and a half million gallons in any month, for each 1,000 gallons..... 9c.
For excess over this and up to two million gallons in any month, for each one thousand gallons..... 8c.
For excess over this and up to three million gallons, in any month, for each 1,000 gallons..... 7½c.
For excess over this and up to three and a half million gallons in any month, for each 1,000 gallons..... 7⅜c.
For excess over this and up to four million gallons in any month, for each one thousand gallons..... 7¼c.
For excess above four million gallons in any month, for each one thousand gallons..... 7⅛c.

For fire protection and to be used only in case of fire, twenty-five dollars per annum for each opening within property lines,

For same purpose if located outside of property lines, for each such opening or fire-hydrant, fifty dollars per annum.

(Signed) O. M. DUNN, *Supt.*

Accepted for the N. O. W. W. Co.

L. H. GARDNER, *Supt.*

Office copy.

166 *List of Open & Closed Hydrants.*

Filed in evidence Dec. 18, 1899.

	Open.	Closed.	Total.
Upper dist. 1876 1877 }			
Lower dist. " " }	6383	5871	12254
Upper dist. Ap'l 1879 }			
Lower dist. " " }	5033	5964	10997
Upper dist. " 10, '80 }			
Lower dist. " " " }	4953	6115	11068
Upper dist. " 10, '81 }			
Lower dist. " " " }	4738	6530	11268
Upper do. " 10, '82	2146	3926	
Lower do. " " "	2825	2338	
	4971	6264	11235
Upper do. " 10, '83 }			
Lower do. " 10, '83 }	4914	6910	11824
Upper do. " 9s, '84	2082	2775	
Lower do. "	2684	2283	
	4766	5058	9824
Upper do. " 1st, '85			
Lower do. " " "			
Upper do. " 1st, '86			
Lower do. " " "			
Upper do. " 1st, '87	2090	2842	
Lower do. " " "	2364	2679	
	4454	5521	9975
Upper do. " 1s-, '88	2101	2831	
Lower do. " 1, '88	2255	2788	
	4356	5619	9975
Upper dist. Ap'l 1st, '89	2013	3150	
Lower dist. " 1st, '89	2072	3076	
	4085	6226	10.311
Upper do. " 1st, '90	2271	2894	
Lower do. " 1st, '90	2202	2944	
	4473	5838	10.311

List of Open & Closed Hydrants—Continued.

	Open.	Closed.	Total.
Upper do. Ap'l 1st, '91	2223	2942	
Lower do. " 1s-, '91	2112	3034	
	4335	5976	10.3.11
Upper do. " 1s-, '92	2467	2698	
Lower do. " 1s-, '92	2290	2856	
	4757	5554	10.3.11
Upper do. " 1s-, '93	2468	2697	
Lower do. " 1s-, '93	2195	2951	
	4663	5648	10.3.11
Upper do. " 1s-, '94	2539	2626	
Lower do. " 1s-, '94	2227	2919	
	4766	5545	10.3.11
Upper do. " 1s-, '95	2725	2440	
Lower do. " 1s-, '95	2258	2888	
167	4983	5328	10.3.11
Upper do. Ap'l 1s-, '96	2871	3471	
Lower do. " 1s-, '96	2206	3042	
	5077	6513	11590
Upper do. " 1s-, '97	2880	2813	
Lower do. " 1s-, '97	2090	2700	
	4970	5513	10483
Upper. do. " 1s-, '98	2980	2525	
Lower do. " 1s-, '98	2074	2546	
	5054	5071	10125

E. & O. E.
(Signed) C. H. HECK, *Clerk.*

168 *Amount Expended Annually Since* 1877 *on Permanent Imp's & Ext's.*

Filed in evidence Dec. 18th, 1899.

April	9, '79.	Paid for new improvements.....	5,953.08
April	9, '80.	.....	178,744.63
April	9, '81.	.....	134,183.69
April	8, '82.	.....	31,286.58
April	8, '83.	.....	6,333.28
April	8, '84.	.....	6,824.91
April	8, '85.	.....	28,299.72
April	8, '86.	.....	3,934.20
April	7, '87.	.....	14,242.62
April	7, '88.	.....	3,778.04
April	8, '89.	.....	3,465.08
March	31, '90.	.....	7,119.72
March	31, '91.	.....	1,870.49
March	31, '92.	.....	16,403.84
March	31, '93.	.....	18,075.25
March	31, '94.	.....	18,670.25
March	31, '95.	.....	28,466.09
March	31, '96.	.....	158,921.91
March	31, '97.	.....	23,092.37
March	31, '98.	.....	13,902.74
			$703,568.49
1892–'93.	New engs. & filter plant ac. this year	$97,058.40	
1893–'94.	New engs. & filter plant ac. this year	38,266.63	
1894–'95.	New engs. & filter plant ac. this year	20,714.65	
			156,039.68
			$859,608.17

E. & O. E.

(Signed) R. L. MACMURDO, *Sec'ty.*

169 *Motion for Temporary Removal of Water Works Books.*

Filed by plaintiff December 20th, 1899.

On motion of J. R. Beckwith attorney, for def't and on suggesting to the court that the New Orleans Water Works Company is much inconvenience- by its books called into (court by *subpœna duces tecum* in this cause) out of its possession there being *duly* use for them in the operation of the work. Therefore on motion of attorney for def't it is ordered that the defendant be allowed to take said books temporarily back to the office the same to be again returned to court *again* on June 2nd, 1900.

170 *Contract of New Orleans Ice Co. with New Orleans Water Works Co.*

Filed in evidence Jan. 17, '00.

Application for water supply to New Orleans Water Works Company.

NEW ORLEANS, *October 7th*, 1895.

The undersigned makes application for water supply at premises No. — S. C. Foucher (or Constance) street & Delord (or Howard avenue).

Character of premises, ice factory.

When supply to terminate—Five years from date, unless then continued by payment in advance for each succeeding year of similar use or supply.

Purposes for which this supply is to be furnished—General, in connection with making ice. It is agreed that the payments shall be made in five payments and as follows. Five (5) notes to be issued.

The first note payable July 7, '96 & each subsequent note is to be paid as below.

2nd year July 7, '97. 3r- year July 7, '98 4th year July 7, '99. 5th year July 7, 1900.

This application is made subject to all of the rules of the company, and especially the following, all of which are acknowledged and accepted as the terms and conditions upon which water is to be supplied to said premises, and it is further agreed that the payment shall be made in advance or before the water is turned on said premises, and that the company shall have the right to turn off the water supply to said premises at the expiration of the time paid for, without notice to the applicant or occupant of the premises.

1. No subscriber will be allowed to supply water to any person, or to use for any purpose not specified in his application, and for an infraction of this rule, the supply will be cut off and the amount of payment forfeited.

2. No addition to or alteration
171 whatever, in or about any conduit, pipe or water cock shall be made or caused to be made by persons taking the water, without notice thereof being previously given to and permission had, in writing from the office of the company.

3. Subscribers must keep their service pipes, stop-cocks and apparatus, up to and including the tap in the street main, in good repair.

4. No hydrant will be permitted on the sidewalk, in an open area or in any other locality accessible to persons other than the subscriber; and neither hy-

6. The company reserves the right to shut off the supply to any premises where water is found running to waste, and to forfeit the amount of payment.

7. Where two or more parties or premises are supplied from the same service pipe, the failure on the part of any of said parties to comply with the rules of the company shall warrant the company in withholding a supply of water through said service pipe, without any liability whatever.

8. It is agreed that for violation of any of the above rules the company may shut off the supply of water, and the amount paid for the same shall be forfeited.

9. The right is reserved to the company to shut off the water in their mains at any time, without notice, for the purpose of making repairs, extensions, or for other purposes. All persons having

drants nor other apparatus must be allowed to run when not in actual use.

5. Officers and employees of the company shall have access, at all reasonable hours, to all parts of any premises where any attachments to the works have been made, to inspect the condition and use of the plumbing.

boilers within their premises not supplied with tanks, but depending upon the pressure in the pipes for supply, are cautioned against danger of collapse.

(Signed) NEW ORLEANS ICE CO.
J. M. BEATH, *M'g'r.*

Oct. 7th, 1895.

(Signed) NEW ORLEANS WATER WORKS CO.
R. E. CRAIG, *Pres't.*

EXHIBIT FROM DAILY ITEM OF OCTOBER 12TH, 1899, ANNEXED TO FOREGOING CONTRACT.

Receiver Applied For.

Charges against the management of the New Orleans Ice Company.

Application was made in the civil district court today for the appointment of a receiver to assume charge of the business affairs of the New Orleans Ice Company, a corporation organized in this city in 1893. The application is made by the Tennessee Coal, Iron & Railroad Company of Alabama, the Barrett Manufacturing Company of Pennsylvania and Patrick Ronan of this city, who
172 are said to constitute the three largest unsecured creditors of the corporation. The first-named creditor is owed $6151.79, the Barret Manufacturing Company is creditor to the extent of $2162.25 and the last named is said to be a creditor to the amount of $450, making a total of $8764.04.

In the petition of the creditors it is alleged that the corporation was never organized according to law; that a sufficient number of persons to constitute a valid corporation were never *bona fide* subscribers to the capital stock, nor members of the corporation. It is also said that the original subscription list was never recorded in the mortgage office. All of the stock is alleged to have been owned from the beginning by one person, John M. Beach, who it is said conducted the business of making and selling ice under the corporation, but, in truth, on his own behalf.

The creditors also make the charge that the company is now without a board of directors, or other officers to directs its affairs, the former board of directors having refused to serve. Mr. Beach is alleged to be grossly mismanaging the affairs of the corporation, is unable to secure supplies, and for that reason has during the past month been unable to meet his present obligations or those about to mature, and therefore places the creditors in jeopardy. The only property of the company is said to consist of the ice plant in this city, and that is alleged to be mortgaged to the extent of $20,000, the mortgage maturing on the 1st of November.

For the protection of the creditors it is suggested that a receiver

conversant with the business be appointed to assume charge of the assets of the concern *and manage the plant under the jurisdiction of the court.*—The Daily Item is the paper you want. Only 15 cents per week.

Item of Oct. 12th, '99.

173 *Agreement with N. O. Ice Co.*

Filed in evidence Jan. 17th, 1900.

It is hereby agreed between the New Orleans Ice Company and the New Orleans Water Works Company that the bill due by the former to the latter for one thousand dollars for a supply of water to said ice company from October 1, 1884 to Sept. 30, 1885 be settled by a cash payment of five hundred dollars and by the note of the New Orleans Ice Company drawn to the order of J. M. Beath and endorsed by him payable June 1, '85 for five hundred dollars and interest at 8 p'r ct. p'r an.: say ($527.44) five hundred and twenty-seven $\frac{44}{100}$ dollars.

It is agreed that in event of non-payment of said note at its maturity 1–4 June, 1885, the New Orleans Water Works Company may at once shut off the supply of water from the said ice company, without recourse upon said water works company, for damages of any kind whatsoever resulting from closing or shutting off the water supply.

It is also understood and agreed that the consideration of the note is a water supply for the year and in part payment of same and does not apply to any portion of the year described, and should the water supply be shut off under this agreement the New Orleans Ice Company and J. M. Beath will still owe the New Orleans Water Works Company or its assigns the note herein described—in other words the New Orleans Ice Company and J. M. Beath agree to pay one thousand dollars for the privilege of water supply for one year, whether this privilege be exercised for one year or for any less time, between October 1, 1884 and Sept. 30, 1885.

(Signed) NEW ORLEANS ICE CO.,
P'r J. M. BEATH, *Manager.*

174 *Bills Paid Water Works Company, Offered in Evidence by Plaintiffs.*

Filed January 18th, 1900.

Bills Paid Water Works Company.

Nov. 24th. 1882	$400.00
Oct. 1st '87 to Oct. 1st '88	500.00
Oct. 1st '88 to March 31st, '89	250.00
1889–1890 balance 1889 Feb. 1st to Dec. 31st $5,500.00	4,814.76
1890 Artesian wells	1,003.48
1891	210.08

1892	.....	199.30
1893	.....	140.15
1894	.....	162.54
1895	.....	293.25
1896	.....	704.97
1897	.....	1,285.78
1898	Air pump	786.70
1899	.....	20.40

175 *Supplemental and Amended Answer of the City of New Orleans to the Intervention of the Board of Liquidation.*

Filed January 18th, 1900.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Now into the court comes The City of New Orleans, intervenor herein, and expressly reserving the benefit of the exception heretofore filed by her to the intervention of the Board of Liquidation of the City Debt herein and in no way waiving same, if same is overruled, this intervenor files this supplemental and amended answer to said intervention, and reiterating her denial all and singular, of the allegations of the intervention of the Board of Liquidation of the City Debt.

Further answering, this intervenor, The City of New Orleans, avers that the said board of liquidation has no interest whatever in the thirty-nine hundred and twenty-seven shares of the capital stock of the New Orleans Water Works Company, now standing on the books of the company in the name of said intervenor; but this intervenor avers that on the contrary the said stock was transferred to and placed in the hands of the said board of liquidation as a pledge to secure certain debts of the city of New Orleans, existing at the time that the said pledge and delivery were made; and this intervenor avers that all the debts for which the said pledge was made have been paid in full and that the said board of liquidation holds in its hands cash and dividends accruing from said stock and from other sources amply sufficient to pay any debts of the city of New Orleans, contracted prior to the transfer of the thirty-nine hundred and twenty-seven shares of the stock named herein.

And intervenor, The City of New Orleans, further avers that it is the duty of the said board of liquidation to turn over and return to your intervenors all said stock and dividends accrued thereon, save and except such as may have been used to provide for any debts contracted by the city of New Orleans prior to the adoption of act 110 of 1890, not provided for by said act.

Wherefore intervenors pray, that the intervention of the
176 Board of Liquidation herein be dismissed at the cost of said board, and further that this intervenor, The City of New Orleans be adjudged and decreed the owner of the thirty-nine hundred and twenty-seven shares of the capital stock of the New Orleans Water Works Company, aforesaid, and that the said board be declared without interest in this suit and that the demands of the said board be rejected and its intervention dismissed at its costs, and for general relief.

(Signed) JAMES J. McLOUGHLIN,
Ass't City Attorney.

Order.

Let the foregoing supplemental and amended answer be filed. New Orleans January 18th, 1900.

(Signed) GEO. H. THEARD, *Judge.*

177 *List of Defendant's Offers in Evidence.*

Filed January 23rd, 1900.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 58345.

List of defendant's offers in evidence.

The New Orleans Water Works Company in its behalf offers and produces in evidence the following statutes, ordinances, proceedings of legislative department of the city of New Orleans, documents and exhibits under the understanding that all statutes of the State published by authority need not be copied in the record in this court, or in any transcript of appeal to the supreme court, but may be considered and used in evidence as published by authority in the sessions laws, to wit: the following:

First. The acts of the legislature of this State being the charter of the defendant corporation, to wit: Act No. 53 of extra session of the legislature of 1877, approved March 31st, 1877; act No. 43 of the acts of 1878, approved February 26th, 1878, amendatory of said act 33 extra session of 1877; act No. 56 of the acts of 1884, approved July 7th, 1884; act No. 7, extra session of 1870; act No. 6 of acts of 1868; and all act- of the General Assembly passed or promulgated after the first day of January 1851, and prior to the first day of January 1871, and all amendments and alterations thereof conferring municipal franchise upon the city of New Orleans, or the inhabitants thereof as published by authority in the published acts of the General Assembly.

Second. Attested copy of notarial act, passed before Andrew Hero, Jr., notary public, January 19th, 1869, with all exhibits attached

thereto or referred to therein, as annexed to this defendant's answer to the State as "Answer Exhibit A."

Third. Attested copy of notarial act, passed before Gustave Le Gardeur, notary public, on the 9th day of April, with all of the matters, exhibits and documents thereto attached, being the act
178 referred to and made an exhibit to defendant's answer to the State herein designated and marked "Answer Exhibit B" in the record.

Fourth. Copy of notarial act between the city of New Orleans and this defendant, passed before J. D. Taylor notary public, on or about the 3rd day of October 1884, and annexed to this defendant's answer to the State as "Answer Exhibit C," now of record in this cause by that designation and already offered in evidence herein by the State on this trial.

Fifth. An attested copy of an act of mortgage executed by defendant before James Fahey notary public, on or about April 1st 1879, marked "Def't's Offer A No. 1." The plaintiff admitting that this mortgage was duly recorded against the property of defendant.

Sixth. An attested copy of an act of mortgage of the property of defendant passed before C. T. Soniat notary public, on or about December 22nd, 1892, marked "Def't's Offer A No. 2" The plaintiff admitting that this mortgage is duly recorded against that property of defendant.

Seventh. An attested copy of the proceedings of the meeting of the subscribers to the capital stock of defendant company held on the 30th, day of March 1868, to organize under defendant's charter, attached to and made part of the notarial act of the sale of the water works to defendant by the city, passed before Gustave Le Gargeur, notary public on April 9th, 1878, attached to defendant's answer to the State as "Answer Exhibit B" heretofore offered in evidence.

Eight-. The printed transcript as printed by the Supreme Court of the United States, of the record in the case of E. Conery Jr., *et als.*, *vs.* The New Orleans Water Works Company and The City of New Orleans, No. 15,774 of the docket of the civil district court of the parish of Orleans, and No. 10,334 of the docket of the supreme court of the State where it went on appeal, and No. 1525 of the docket of the Supreme Court of the United States for the October term thereof 1889, where is was taken on writ of error, to which is added an attested copy of the mandate of the United States Supreme Court and proceedings thereunder in the supreme court of
179 this State. It being agreed between counsel in this cause that said printed record in case of appeal need not be copied in the transcript of appeal, but may be attached to such transcript in form as now offered. Marked "Def't's Offer No. 3."

Ninth. The record in the case of The National Water Purifying Company *vs.* The New Orleans Water Works Company, No. 44,548 of the docket of the civil district court, for the parish of Orleans, and No. 12,036 of the docket of the supreme court where it went on appeal. It being agreed between counsel for all parties, that in case of appeal the transcript of record of the cause now in the supreme

court is now also offered in evidence and may be used in that court on appeal without being carried up in the transcript in this cause.

Tenth. An attested copy of the pleadings, decree, and proceedings subsequent to the original decree, in the circuit court of the United States for the eastern district of Louisiana, in the case of The New Orleans Water Works Company *vs.* Robert E. Rivers, No. 10,560 of the docket of that court, marked in this cause "Def't's Offer A No. 4."

Eleventh. Attested copy of the pleadings, decree and subsequent proceedings in the circuit court of the United States, eastern district of Louisiana, in the case of The New Orleans Water Works Company *vs.* The St. Tammany Water Works Company and The City of New Orleans, No. 10,031 of the docket of that court, marked in this cause "Def't's Offer A No. 5."

Twelfth. A printed copy of the Bragg or Hatch tari*ll* of water rates adopted by the board of commissioners of the city water works, joint session 1869, marked "Def't's Offer No. 6."

Thirteenth. Verified copy of the proceedings of the common council, city of New Orleans, in joint session, of board of aldermen, and assistant aldermen, held at the city hall in New Orleans on July 6th 1869, marked "Def't's Offer No. 7."

Fourteenth. Extracts from the proceedings of the legislative department, the council of the city of New Orleans, and copies of promulgated ordinances attested as per stipulation on file, marked "Def't*d* Offer A No. 8." This offer including all matter com-
180 piled in said compilation and document.

Fifteenth. Receipts given by the city to William Golding for money paid for water supply, receipts being withdrawn from the record in the case of Isaac Levy *vs.* Water Works Company No. 9564 civil district court pursuant to an order of that court for use in this cause, receipts severally marked "A," "B," "C," "D," "E," but attached together and produced as "Def't's Offer A No. 9."

Sixteenth. Report of commissioner of department of water works and public buildings from December 19, 1876 to December 31, 1877, James D. Edwards administrator of that department, marked "Def't*d* Offer No. 10."

Seventeenth. Attested copy of pleadings and exhibits attached and decree of civil district and supreme courts in the case of The National Water Purifying Co. *vs.* New Orleans Water Works Co., No. 44,546 civil district court and No. 12,036 supreme court, marked "Def't's Offer No. 11."

Eighteenth. Statement of amount of dividends and city taxes that have been paid to the city of New Orleans by defendant, marked "Def't's Offer No. 12."

Nineteenth. Water tariff of the New Orleans Water Works Company adopted in 1898 with city ordinances relating to water works, also published in Fynn's Digest of City Ordinances, marked "Def't's Offer No. 13."

Twentieth. Attested copy of minutes of meeting of shareholders to organize the defendant corporation, marked "Def't's Offer No. 14."

Twenty-first. Statement of bonds issued and dividends paid by defendant corporation, marked " Def't's Offer No. 15."

Twenty-second. Statement of bonded of the city of New Orleans, marked " Def't's Offer No. 16."

Twenty-third. The inspection and survey of the building, plant and establishment of the New Orleans Picayune newspaper and the assessment of water rates thereon for 1898, marked " Def't's
181 Offer No. 17."

Twenty-fourth. Statement of lime and alum expended in ineffectual attempt to filter water under contract with National Water Purifying Company in 1893 and 1894, makred " Def't's Offer No. 19."

Twenty-fifth. Complied reports of spannerman and members of fire department, marked " Def't's Offer No. 20."

Twenty-sixth. List of stations and fire-alarm boxes in the city of New Orleans, marked " Def't's Offer No. 21."

Twenty-seventh. Blue print of skect- illustrating *and* relation of a stand-pipe to a system of city water works distribution, marked " Def't's Offer No. 22."

Twenty-eighth. A table by witness Engineer Earle, showing comparative data concerning the water supply of the city of New Orleans and other cities named in the table, marked " Def't's Offer No. 23."

Twenty-ninth. Extracts from the records of the proceedings of the board of directors of defendant corporation, this offer having subdesignation of (24) A, B, C, D, E, & F, being separate extracts and so subdesignated for certainty and convenience, marked " Def't's Offer No. 24."

Thirtieth. Compiled memorandum of tests of city water mains in New Orleans, showing pressure at pumping station and other points distant therefrom as designated is certificates—this offer having also subdesignation (25) A, B, C, D, E, & F, marked " Def't's Offer No. 25."

Thirty-first. Statement of the water account of the St. Charles hotel signed by Heck and Hands, taken from books and records of defendant corporation produced in court with subdesignation (—) A, B, & C, marked " Def't's Offer No. 27."

Thirty-second. Correspondence relating to Maginnis water supply at soap works and cotton mills with statement of account, this offer having subdesignation (—) A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, & T, marked " Def't's Offer No. 28."

Thirty-third. An act of the General Assembly of the State
182 of Louisiana entitled "An act to incorporate the Commercial Bank of New Orleans" approved April 1, 1833, as the same is published by authority in the acts of the General Assembly of the State for 1833 on page 151 *et seq.* This offer designated as " Def't's Offer No. 29."

Thirty-fourth. Hydrant books of the city of New Orleans covering the period of the city's ownership of the water-works plant, marked with title of this cause and the words City Hydrant Book

and numbered 1 to 42 inclusive,—this being offer designated as "Def't's Offer No. 30."

Thirty-fifth. City collection books of water rates marked on cover with the title of this cause and severally lettered A, B, C, D, & E, this offer being designated as "Def't's Offer No. 31."

Thirty-sixth. A verified copy of ordinances of city of New Orleans No. 12,036 C. S. being an ordinance adopting the digest of city ordinances etc., compiled in Flynn's Digest of City Ordinances under the provisions of ordinances 10, 758 C. S. And city ordinance 3287 C. S. published as sections 3147–3148 and 3149, Flynn's Digest of City Ordinances, ed. 1896, on page 1171 *et seq.*, marked "Def't's Offer No. 32."

Thirty-seventh. Old and new water meters offered in evidence by the defendant The New Orleans Water Works Company, identified with the deposition of witness Hands.

Thirty-eight. All papers, documents, writings, and exhibits offered by the defendant in connection with the testimony of witnesses of plaintiff and defendant, offered in evidence by the defendant and identified with and filed in reference to, or as part of the depositions of the several witnesses with which the same are identified *my* mark, number or other designation named when said offer was made as statad in the depositions with which they are connected.

Thirty-ninth. All books and compiliations identified by defendant's witness T. E. Orell, containing the compl*ie*d automatic gauge dial charts or water pressure on mains, log of engines and
183 operations at pumping station, both general and daily log as compiled and produced and filed in court, and all other compilations of data made and referred to by the said witness in his deposition and filed with identifying *and* designations.

Fortieth. The new and old worn meters produced in court by defendant and identified and explained by defendant's witness Edgar Hands and filed in court as exhibits.

Forty-first. All of the depositions of the several witnesses produced, sworn and examined in this cause on behalf of the defendant, The New Orleans Water Works Company, with all documents and other matters and exhibits connected with or identified therewith by each of said witnesses.

(Signed) J. R. BECKWITH,
Att'y for Def't, N. O. W. W. Co.

184 *Agreement of Counsel as to Transcript of Appeal.*

Filed March 29th, 1900.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

It is hereby agreed that in case of an appeal, any and all books of account, printed documents and tabulated matter, need not be copied in the transcript of appeal, but may be attached to the transcript of appeal in the original by either party who may appeal this cause to the Supreme Court.

This agreement is expressly declared to embrace the following-described papers, books and documents offered in evidence but the said specific description is not intended to be exclusive and any evidence covered by the foregoing general description may be taken to the Supreme Court in original, in case of an appeal.

The documents which it is specially agreed shall so go to the Supreme Court in original, are the following, to wit:

1. The hydrant ledgers, books and inspection certificates, and water-rent receipts of the defendant company; and also any and all hydrant ledgers or other books pertaining to the water works and kept by the city of New Orleans, whilst the water works were conducted by said city.

2. Any and all acts of the legislature, offered in evidence which are to be referred to in the printed acts of the General Assembly, and which need not be either copied in the transcript or annexed to the same.

3. The printed transcript as printed by the Supreme Court of the United States, of the record in the case of E. Conery, Jr., *et als.* vs. New Orleans Water Works Company and The City of New Orleans, being document marked "Defendant's Offer No. 3."

4. The record in the case of The National Water Purifying Company *vs.* New Orleans Water Works Company being No. 44,548 of the docket of the civil district court for the parish of Orleans, and No. 12,036 of the docket of the supreme court of the State of
185 Louisiana, shall in case of appeal, not be copied in the transcript of record, but the transcript of the record of the above-numbered cause now in the Supreme Court shall be used in said court of appeal- without being carried up in the transcript in this cause.

5. The printed copy of the Bragg or Hatch tariff, marked "Defendant's Offer No. A 6."

6. Verified copy of proceedings of the common council of the city of New Orleans held July 6th, 1869 "Defendant's Offer No. 7."

7. Extracts from proceedings of the legislative department, the

council of the city of New Orleans, and copies of promulgated ordinances, attested as per stipulation on file marked "Defendant's Offer A 8."

8. The report of commissioners of department of public works and public buildings from December 19th, 1876 to December 31, 1877, marked "Defendant's Offer No. 10."

9. Statement of amount of dividends and city taxes paid to the city of New Orleans by defendant, marked "Defendant's Offer No. 12."

10. Water tariff of the New Orleans Water Works Company adopted in 1898, with city ordinances relating to water works, marked "Defendant's Offer No. 13."

11. Statements of bonds issued and dividends paid by the defendant corporation marked "Defendant's Offer No. 15."

12. Statement of bonded indebtedness of the city of New Orleans, marked "Defendant's Offer No. 16."

13. Compiled reports of spannerman and members of fire department marked "Defendant's Offer No. 20."

14. List of stations and fire-alarm boxes in the city of New Orleans marked "Defendant's Offer No. 21."

15. Blue print of sketch illustrating the relations of a stand pipe to a system of water-works distribution marked "Defendant's Offer No. 22."

16. Table by witness George G. Earle showing comparative data concerning the water supply of the city of New Orleans and
186 other cities named in the table, marked "Defendant's Offer No. 23."

17. Compiled memorandum of tests of city water mains in New Orleans, showing pressure at pumping station and other points distant therefrom, as designated in certificates, being the whole of the documents marked "Defendant's Offer No. 25."

18. Forty-two hydrant books of the city of New Orleans marked No. 1 to No. 42 inclusive, and also designated as "Defendant's Offer No. 30."

19. City collection books of water rents, marked on cover with the title of this cause, and severally letters A, B, C, D, and E, this offer being also designated as "Defendant's Offer No. 31."

20. The following ordinances, contained in Flynn's Digest need not be copied in the transcript, but it is further agreed that they need not be annexed to said transcript but may be referred to in Flynn's Digest of said ordinances; to wit: Ordinances No. 12,026 council series, found in Flynn's Digest page IX; ordinance No. 10,758, C. S., found in Flynn's Digest, page IX; city ordinance No. 3,287, C. S., published as sections Nos. 3,147 3,148 and 3,149 of Flynn's Digest, pp. 1171 *et seq.*

21. The old and new water meters offered in evidence by the defendant The New Orleans Water Works Company, identified by the deposition of the witness Hands, are to be taken up in original.

22. All books and compilations identified by defendant's witness T. D. Orell, containing the compiled automatic gauge dial charts of

water pressure on mains, log of engines and operations at pumping stations, both general and daily log as compiled, produced and filed in court, and all other compilations of data made and referred to by said witness in his deposition, and filed with identifying marks and designations.

(Signed) J. R. BECKWITH,
FARRAR, JONAS & KRUTTSCHNITT,
Att'ys for N. O. Water Works Co., Def'ts.
BENJAMIN RICE FORMAN,
Att'y for Pl'ffs.

187 *Report of L. H. Gardner and Agreement of Counsel.*

Filed November 29th, 1899.

NEW ORLEANS, *October 6th*, 1890.

Report to board meeting held this date.

About the middle of July the president and a committee of the board of health asked the company for the use of fire-hydrants to flush gutters on streets parallel with the river.

They were tendered the continuous use of eight plugs, in any part of the city. The offer was appreciated, accepted, and the thanks of the board of health formally returned.

On 3rd inst., I bought without advertising for bids, a boat of first pool Pittsburg coal from James Sweeney & Co. at 29¾ cts. per barrel, delivered and piled in the company's yard.

The special examination of open and closed yard hydrants and condition of fixtures was begun August 11th, and has just been concluded. A large number of leaking fixtures have been reported, together with many irregularities. There have also been found a number of unauthorized hydrants open, and the correction of the matters reported has paid the cost of the special inspectors employed.

On September 15th, the annual blow-off or cleaning out of the whole pipe distribution was begun and carried through successfully, together with the incidental examination of our main stop-cocks or gates—only one of which, out of some 500 was found disabled.

Our intake pipes are now in shoal water. The shoaling is increasing yearly. In 1870 or '80 Mr. E. Toby, then sup't and pres't of the company, extended these suction pipes some eighty feet. It now becomes necessary again, to extend them for permanent relief. This extension would carry them to the wharf line which has been extended since Mr. Toby's pipe extension was made. Recently the lessee of the Freetown ferry at the foot of Richard street, and just above our cribs was authorized by the city council to extend
188 his w-arf fifteen feet. This carries him to the w-arf line and leaves our pipes in a pocket. In August I found that the nose of our main engine suction pipe was in a hold with only twelve inches between it and the bottom of that hole, and the others shoaled

nearly as badly. Something had to be done. One course was to extend the pipe at an expense of $2000 or $2500 and the other was to dredge about the cribs as a measure of temporary relief. This dredging was done after consultation with the president at a cost less than $200—but with the full knowledge that the relief obtained is entirely temporary.

Permanent remedy can be effected, as stated, by extending the suction pipes, as stated, at a cost of $2000 or $2500, or, what is next best, to extend the six-inch pipe under distribution pressure, from Peters street to the cribs, and occasionally to use the pipe to blow out to the river current the deposit formed about the cribs. This would cost about $1000. Either method would have to be adopted or rather put into practice, at a low stage of the river, such as we now have.

On Saturday morning July 19th, the lead calking in the forty-eight-inch suction pipe of the main engine, immediately next the check-valve at the river front blew out. This accident was doubtless caused by the engine losing her water and the consequent water ran. In turn, this loss of water or priming is due to one or both of these causes. First, the opening of the joint of the suction pipe between the engine and the river; second, the badly worn condition of the valves at the water end of the main pumping engine. That both conditions exist I do not doubt. Temporary repair was made and completed in two weeks. To overhaul the water valves and repair would require two months' time or more and cost over two thousand dollars. To uncover the six or seven hundred feet of suction pipe would take as much time and also prove very expensive.

As no immediate or serious danger seemed imminent, and as
189 alterations and radical changes, in the plant are in prospect, I refrained from making or suggesting, the expensive repairs, I have alluded to.

On Sunday August 18th, the old engine then working stopped and failed at 9 a. m. The chief engineer then attempted to start the main engine, and this refused to work by losing its priming. This condition lasted for some two hours—it was an incident which, had it occur-ed on a week day, would have been deemed a scandal—to say the least. This occurrence—or worse is possible under present conditions at any time. Without desiring to exaggerate or to give any note of alarm; without prophesying any sudden wreckage or disaster it is my simple duty again to say that our pumping machinery is badly worn and needs renewal, reinforcement and extensive repairs, in the interest of safety, effeciency and economy.

As now situated and operating you have, practically, no spare machinery for alternate use in case of accident to the main pump. The condition of the machinery is being carefully watched and maintained in as good repair as circumstances and surroundings will permit.

As corrected

L. H. G.

190 NEW ORLEANS, WEDNESDAY, *Nov. 5th*, 1890.

Report to the board meeting this date.

At the meeting of the board in May last I reported the setting of a six-inch meter at the Magannis cotton mills. A few days ago, the meter having been in use about six months, it was found that the consumption averages about 2300 gallons daily. So far I should say, in parenthesis, that the mill is using well water for steam and condensing purposes and for its chief supply. As instructed, I consulted Judge Beckwith as to the rate per 1000 gallons that we could and should charge for the supply, and he says that fifteen cents per thousand gallons having been fixed by the State supreme court, as the legal rate to large consumers, this is the proper rate under the circumstances. I have rendered a bill in accordance, but it has not yet been collected and no answer returned.

At the meeting of the board in May, in answer to questions. I reported that the elevator in the Meyer building, approximately used forty thousand gallons — water daily. For this elevator and for water-closets and other water supplies about the building we received $565 annually. This rate was a special one, not made by me, and under special circumstances not now existing.

I recommend that the rate be advanced to $700—or that they pay at the rate of fifteen cents per thousand gallons.

In this connection I would say that the rate on the Imperial building corner of Carondelet and Gravier, is also entirely too low. Taking the Denegre building as a guide, I advise that the Meyer building pay $700—and the Imperial $650—with the alternative of putting on an indicator and paying at the rate of 15 cents per thousand gallons, for the elevators, and tariff rates for other water supply.

I would ask the board to pass upon these suggestions, and with specific instructions.

Within a few days past the president of the levee board
191 and the city engineer have notified me, (verbally) to throw up an embankment or levee at our river front, as a protection against high water; and in accordance with a similar demand upon the w-arf lessees, and with which they are complying. Some three years or more ago, I put in a revetment at our levee front. The additional work now required will not I think, exceed in cost, the sum of one hundred dollars.

As you are aware a large proportion of our water-supply bills mature Oct. 1st. In revising assessment in this connection I have been unables to increase them by say five to seven hundred dollars, and the general increase or assessments during the past 30 or 40 days, may be roughly estimated at $1000.

As corrected

L. H. G.

192 WEDNESDAY, *Aug. 5th*, 1891.

Report to board meeting this date.

Since my last report I have laid 4384 feet of ten-inch pipe on Canal street from Claiborne to White street, and 1680 feet six-inch pipe on Chippewa street from Jackson to Second, and on Second from Chippewa to Annunciation.

By authority of the city council four fire-hydrants have been placed on the Chippewa Street extension, payment by the city for rental of the same to begin January 1892. Six fire-hydrants are to be placed on the Canal Street extension on same terms as soon as the city ordinance of authorization is promulgated.

The steam valves of the old engine are undergoing repairs. The parts of the Knowles engine needed for repairs have been ordered, but have not yet arrived.

The forty-eight-inch check-valve on the suction pipe of the main engine has worn beyond the reach of ordinary repairs, and after consultation with the president and vice-presidents, I have invited bids from the various foundaries for the construction of a new one.

The utility, if not the necessity for a revetment or bulkhead at our river front for holding back the accretion of batture being apparent, the president has authorized me to contract for its construction at a cost of five hundred dollars. This will materially assist in preventing shoaling about our intake pipes and give relief until such future time as may be decided upon for extending the pipes further out into the river.

Some time ago I sent samples of water from two so-called artesian wells to Prof. Chandler of New York for examination and analysis. He telegraphed me on yesterday: "Analysis mailed today. Both samples very bad. Water unfit for use." In this connection I would say that there is said to be a general decrease in the flow of wells, and the last one to go dry was one at the plant of the
193 Consumers' Ice Co. Prof. Metz, the State chemist, says professionally, that it is only a question of time when all these wells will be exhausted.

Napoleon avenue from Magazine to St. Charles is being paved with gravel. One or two residents of the avenue have canvassed for subs'n to water mains and only received encouragement to the extent of $36-.

As corrected

L. H. G.

194 WEDNESDAY, *January 6th*, 1892.

Report to the board of directors this date.

There having been no meeting of the board in the meantime, I have made no report since October 7th. Since then under low-water conditions, the engines have not behaved well, and have several times threatened serious trouble. On October 20th, a fire occurred on Front street near Poydras, and we had to put all three or our pumps at work, and still failed to maintain 45 feet head.

On October 24th, both the main engine and the old engine lost their water and the basins were opened up to supply demand for a fire which occurred simultaneously with the occurrences named.

On Oct. 26th plugs were opened to supply sufferers from the then prevailing drought.

This company carried no insurance on any of its property. The Hartford Steam Boiler Inspection and Insurance Co. insures — boilers and most large steam-users have their boilers insured — in this or some similar company. The premium is one per cent. for a term of three years, and carries with the policy an inspection of the boilers four times in each year free of extra charge. The insurance covers all damage to life or property up to amount of policy. After consultation with your president, I have asked for a policy for $25000 on our eight boilers. The term is three years. Premium $250.

While in New York, recently, I visited a plant of recently constructed engines, two of ten million capacity each. On inquiry as to their efficiency, I learned that they were working to an advantage of two-thirds over our engines. In other words with such engines as I saw, we could have pumped last year's supply for over $8000 less than it cost this company.

Within a few days past in making some record examinations I found that this company pumped in November 1891 just one hundred million gallons more than in November 1888. Turning then to revenue, I found that it was no greater up to that month in '91 than on December 1st, 1888. A careful investigation en-
195 ables me to say that this extra one hundred million gallons was neither pumped or delivered; but the record shows that the work was done and the coal consumed to do the work, and that the trouble is with an increased and increasing slippage of the pumps, their wear and defective condition and the necessary waste consequent upon the impossibility of running the main engine at a slow speed.

The value of the coal alone during the month of November for this useless work is some $375.

A few days ago I purchased a boat-load of coal from James Sweeny & Co. at forty cents per barrel, delivered and piled in our yard.

—— ——.

As corrected.
L. H. G.

196 NEW ORLEANS, *August* —, 1893.

The superintendent about to leave the city records this, his report for the board meeting, first Wednesday in September.

Laid 1717 feet of six-inch pipe on Press street from Chartres street nearly to St. Claude street under an application from the N. E. R. R. Co. for fire protection. Work began Aug. 1 and concluded on the 14th and cost say $1550 in round figures, or say about 90 cts. per foot.

Revenue guaranteed by the R. Rd. Co. for six years, for seven fire openings at fifty dollars each is $350 per annum, which is considerably in excess of the required 10% revenue for laying extensions. Action bt this company on the city ordinance ordering the placing fire-hydrants and fire-wells has remained in obeyance and I wait the instructions of the board.

An overture has been made to the company for an extension of main on Carondelet street, from Jackson avenue, up, involving some 2100 feet of six-inch pipe with proper revenue.

The acting president, Mr. Baldwin, instructed that bids for doing the work be asked for. I have made formal report to him of the matter, copy of which report is in the letter book of the company (August 21). I wait instructions in the matter.

The parting of rupture of the suction pipe of the main engine some months ago, was partially repaired, complete work having been prevented by the rising of the river.

Since then there has been a parting of joints in the old main of the old and dismantled engine.

Necessary and permanent repairs in both cases are now progressing. I beg your attention to the unfinished and unsightly condition of the new engine room or house, and to the need of painting the new machinery, with the request that you authorize me to have the work done.

(Signed) L. O. GARDINER, *Supt.*

As corrected.
L. H. G.

197 MARCH 7TH, 1894.

Report to board this day.

Contract for laying a 6-inch pipe on Fourth street between St. Charles & Colisium, under application of W. S. Parkerson was let to Julius Loeffler for $600, he furnishing all material and labor. Acting President Nott opened the bids and awarded the contract at 12 m. January 15th. The work has been done but not delivered under the contract.

Mainion & Co., contractors, have completed extension of 6-inch main on Calhoun street & Hurst street. Two double-nozzle fire-hydrants are placed on this extension on Hurst street, but the pressure is so very light and the flow so poor as to warrant me in again calling your attention to the necessity of laying a large main to reinforce the St. Charles Street main and the extensions from same. My last annual report alluded to it. The Ursulines Avenue extension under contract with Manion & Co. is virtually completed involving the placing of twelve fire-hydrants; but the work has not yet been turned over to the company. So far forty-seven fire-hydrants have been placed under city ordinance 7807.

The four new boilers have been delivered and are now in the yard of the pumping station. The first battery of two boilers will

be fitted with the Hawley down-draft device ordered by the board, and this battery will be erected by day's work, and under the direction of the Hawley inspector.

Please instruct me as to whether the second battery shall be placed by day labor, or under contract.

A change or rebuilding of the boiler shed being required it has been ordered by proper authority and will have requisite attention.

A boat-load of coal, (some 8000 barrels) and two thousand barrels Alabama coal have been purchased at 28 cts. per barrel, delivered and piled in your yard.

Breeching and chimney being needed for the new boilers, bids have been invited for their construction.

(Signed) L. H. G., *Supt.*

As corrected.
L. H. G.

198 JULY 5TH, 1894.

Report to board.

On June 5th, Mr. A. Baldwin, acting president, authorized extension of six-inch pipe on Philip street from Baronne to Carondelet streets. This being advertised for bids the contract was awarded to Robert McNamara. Robert McNamara has finished extension of four-inch pipe on Berlin street from Rampart to St. Patrick streets, 720 feet, with one Chapman valve or gate.

There being some trouble about leaks at the intersection of St. Joseph and Camp streets, evidently caused by the traffic of steam trains and city railroad cars, and feeling that the water works Co. was not at fault in the matter, I consulted Mr. Littell, president of the street railroad Co., who in his turn agreed to consult the I. C. R. R. Co. as — their assuming the expense of correcting the trouble. Instead of doing this Littell complained to the city authorities of the condition spoken of. I then consulted the authorities of the I. C. R. R. Co., and at their expense I have relaid the pipe on St. Joseph street in the vicinity of Camp street, and hope to have no further trouble from this source.

Two new boilers await setting with the Hawley down-draft attachment. The work was advertised for bids, which were duly opened by President Craig ,at advertised date, and award held over for future decision.

An iron fire-well, cast by Leeds & Co., has been placed at the intersection of Canal and Carondelet streets. Its construction involves some new features, one of which is a valve inside the well itself. This is the first fire-well placed under ordinance 7807. One more brick structure will be placed, and I will then await your future instructions before placing other wells.

I beg your special attention to the very poor supply furnished to your consumers on Philip street between Magazine & Coliseum streets. This 3-inch main runs to a dead end. It pays the company a good revenue and should be connected with Prytania street to afford adequate supply.

I ask authority to have the extension made.
(Signed) L. H. G., *Supt.*

As corrected
L. H. G.

199 *Extract from Superintendent's Report to Board of Directors.*

WEDNESDAY, *October 3rd*, 1894.

For some months increasing complaints have been made of "lack of pressure" above Louisiana avenue. These have gradually increased until, during the past two weeks, almost every consumer in the upper district in complaining not of *scant* supply but of no supply whatever during the day. Water-closets and bath-tubs on the second floor, and even yard hydrants are not being supplied.

This total failure was a worse condition that I have anticipated, although I have predicted for several years past unpleasant results in this connection.

I therefore have had valves or main gates examined, and have taken other steps to see if any obstruction exists to the free flow of water through the distribution in the affected district I have found no such obstruction.

I have had the pressure at the pumping stations raised from sixty-five feet to eighty-five feet. This, of course, will not make an eight-inch pipe, or a six-inch pipe carry any more water, but it will more quickly supply the heavy draft on mains—both large and small. This expedient is not curative of the trouble but it is of marked help in most cases of this kind.

In the present case it has been of very little benefit. It is my duty to say that the trouble is inherent to the plans of distribution. That it has not been so strongly manifested before is partly due to the fact that no drouth of any consequence has occurred during the past three years. During these years large extension- of mains have been made and hundreds of taps in connection, all supplied by a six-inch main running up St. Charles avenue, together with added fire-hydrants for street, sprinkling, flushing, etc.

The largest feeder to the uptown district is an eighteen-inch main on Felicity street. It does not require much knowledge of hydraulics to conclude that three miles of six & eight inch mains and collaterals cannot be satisfactorily supplied under these circumstances.

200 The existing drought has developed the inherent weakness and incapacity of the system. The rainfall in last month (September) was less than one inch, and the cistern supply of the best of our families is being drawn very low. This of course creates a largely increased demand, upon your mains.

The remedy is to be found in l-ying a reinforceing main from the pumping station up to State or Calhoun street, and of from 24 to 30 inches in size, and supporting the St. Charles Street main, by radiating mains.

At my request Major Harrod examined the conditions some months ago. At request of Mr. Hart (one of your board) Mr. Rudolph Hering examined this as per my last annual report, and both these experts agree in the conclusion I report.

I have many times in the past few years brought this matter to your attention, and you now have practical demonstration of the urgent necessity for action.

As corrected.

L. H. G.

201 WEDNESDAY, *November 7th*, 1894.

Report to board.

Application having been made for an extension of mains on Prytania street, the president instructed advertisement for such an extension say from Valence to Napoleon avenue.

Being duly advertised the contract was awarded to Jas. C. Burns. This work has been completed, involving 1176 feet of 6-inch pipe Contract price $795.50.

Manion & Co., have completed the work under their contract of laying pipe on Duffosat street and Prytania street, involving 2020 feet 6-inch pipe and four fire-hydrants. Contract cost of pipe-laying $1403.80.

The same contractors, Manion & Co., have completed the laying of pipe under contract, on Webster & Jennett street-.

320 feet 4-inch on Jennett street

350 feet 6-inch on Webster street

One fire-hydrant.

Contract cost of main $438.79.

After due advertisement your president awarded to Jos. C. Burns contract for laying an 8-inch pipe on St. Charles avenue, Calliope to Felicity, with 9 fire-plugs authorized by the city (contract $2380.00).

After consultation with the president, I have purchased from W. G. Coyle & Co. a boat-load of coal at 35 cts. delivered and piled in yard of pumping station. W. G. Coyle & Co.'s bid of 35 cts., as above, was the lowest of some four or five bidders.

Extension of main on Common, Claiborne & Rocheblave streets by Contractor Burns was begun on Oct. 31st, and is now in progress.

I will during the month, errect on existing mains a fire-well at Thalia & Tchoupitoulas street- and one at Calliope and Annunciation streets.

Under instruction received from your president, I will erect other wells on existing mains, as soon as I can get the necessary valves from the manufacturers, which will probably be during the month.

202 On October 2nd, I addressed the commissioner of public works, as follows:

"The continued absence of rainfall is causing discomfort among

people on the outskirts of the city. As is the custom of this company under such circumstances, I have opened fire-plugs for their relief, and this will be continued under the drouth is broken."

This opening of fire-plugs continued until 5th inst., when full relief from rains was manifest.

During the existence of the drouth the unlawful opening of the fire-plugs was, in number and extent, *unprecedented* and this notwithstanding the company has by advertisement virtually made water free to all the inhabitants of the city.

There have been seven breaks on main pipes during the month, due I think to the increased pressure and to inherent original weakness of pipe.

As corrected.

L. H. G.

203 MARCH 6TH, 1895.

Report to board this date.

During the past month the attention of your supt. has been directed to the fulfillment of the two Abbot-Gamble contracts, to the frequent breaks in the mains, and to application for new extensions which are coming in. The contractors are so far doing their duty with good work and material.

I alluded in my last report to breaks in the mains. These continue under our increased pressure. They are the result of faulty pipe or old-fashioned horizontally cast pipe, and the occurrence of these frequent breaks should admonish the company not to admit to its distribution anything but the best material.

Within the past ten days the repair of a burst on a 6-inch main, which should have been made in 6 hours, has cost your company the labor of some 15 to 18 men for 36 hours' consecutive service and ten hours' service of a steam fire-engine. All this is the result of faulty contract work in 1877–'78.

Your president has reported to you on the proposal for remodelling your beam engine. On 1st inst. the chief engineer of pumping station reported to me the necessity of laying up the Allis engine for packing and other repairs.

This entailed the use of the main or beam engine and the Knowles pump in the meantime. This condition is liable to occur at any time, to say nothing of possible serious accidents, to the Allis pumps. In recurring for use to the old machinery under abovementioned circumstances, the extra expense is something like $50 per day, as I have before reported.

Your reserve machinery is today both expensive of operation and unreliable in action or use as it now stands. It is often difficult to operate your beam engine.

The necessity for spare pumping machinery has within the past month been exemplified by the entire break down of the machinery of the Bienville Water Company of Mobile, Ala., which is comparatively a new plant, but as I am informed, without extra or spare machinery. "It is the unexpected which always happens."

204 It is the policy of both prudence and economy that your spare machinery be put into good reliable shape and with adequate provision for economy of operation.

Demands upon your service are increasing. Over twenty miles of pipe extension *or* under contract, and in immediate prospect and with more to follow. It behooves you to be prepared for all the emergencies of the situation.

On February 9th, your president awarded contract to Manion & Co., for laying extension of mains from Race street to Carrollton avenue as per advertisement and specifications and for the round sum of $70413.66, they being the lowest bidders.

They (Manion & Co.,) have given bond satisfactory to the president of this company, and are expected to begin work on the morning of the 10th inst.

Manion & Co. contractors, have virtually completed extension of mains on Constance street & Washington avenue, involving 2124 feet 6-inch pipe. 382 feet 8-inch pipe, 5 hydrants (fire).

(Signed) L. H. G., *Supt.*

As corrected
L. H. G.

205 NEW ORLEANS, *Oct. 26th*, 1895.

Mr. R. E. Craig, prest.

DEAR SIR: This morning I was in receipt of a complaint from the L. & N. road that they could get no water for locomotives at Elysian Fields street.

Also from the N. O. & Southern road that the moving of their trains was virtually stopped from the same cause, viz: reduction of pressure.

Also from downtown residents, that they were unable to get water for closets and other uses on the second floor.

I gave Mr. Burroughs, your downtown spannerman, an assistant this morning to close plugs.

I also put on at twelve o'clock today two supernumerary policemen for the same purpose. I avoided making arrests.

I saw the chief of police who said that he would do what he could but was short of men.

I saw the officer in charge of the 5th precinct who made similar promises, to those of the chief of police, but he complained of lack of men.

The interruption to the railroads was so serious that I called on Mr. Marshall supt. of the L. & N. road, and Mr. Sprague of the N. O. & Southern.

These gentlemen received my explanation of the situation very kindly but said that they could not stand the inconvenience much longer.

I make a full tour of the lower district today and found plugs opened everywhere.

Respectfully, L. H. GARDNER, *Supt.*

As corrected.
L. H. G.

206 JULY 1st, 1896.

MEMO.—The superintendent was not present at meeting of June monthly meeting of board, being unavoidable detained by the discharge of other duties.

Report to board this date.

Low water in May enabled me to put the tug "Wilmot" at work dredging by propeller the front of your intake pipes. Decided relief was obtained, but a sudden rise in the river has deferred completion of the work.

In May a boat-load of coal was bought of Jung & Landry at 31½ cts. delivered and piled in yard, payment to *me* made in 90 days without interest.

The New Orleans Sprinkling Co. has arranged with this company for water supply to an electric car on Camp and Prytania streets. They have taken two special connections from your mains and are experimenting with a view to sprinkling a large area of the city. On June 2nd contract was awarded to James O'Rourke to lay 1600 feet 8-inch pipe on Broadway street from St. Charles to Irma, and to place five-hydrants, for $1138.00.

Also to same contractor, 500 feet 6-inch pipe on Carondelet street from La. Ave. to Toledano St. for $342.26.

At date of this report these contracts are virtually completed, but streets not entirely restored as to paving.

The work of remodelling your beam engine is still in the hands of Allis & Co. They will probably be ready for a test during this month (July).

During May and June there were nine breaks or bursts on main pipes. Of these seven were caused by the increased pressure on the mains, which pressure has been increased gradually from that due to 45 feet up to 85 feet. Seven of these breaks or bursts were on pipes cast in the old-fashioned horizontal manner, leaving the pipe thick on one side and very thin on the other. The other two breaks were from other causes.

207 Streets adjacent to cotton presses uptown are being appropriated by the I. C. R. R. Co. in laying double-track switches. Wherever these cross or overlie your mains or valves this R. R. Co. continues to show an earnest desire to protect your property from damage.

Since *by* last report I have represented the company at the annual convention of the American Water Works Association the proceedings were of the usual and practical and instructive character. The papers and discussions valuable, and I will be glad to furnish the members of the board with a copy of the proceedings when published.

As corrected.
L. H. G.

208 No meeting of board this date. This report however made to the president, who requested this report to be made to the board.

JANUARY 6TH, 1897.

The most important matter for me to report, is the recent loss of water by your pumping engines. What is meant by this is the loss of vacuum in the suction pipes. This condition is us-ally due to leaks in the pipes. Your chief engineer at pumping station assures me that there is no air leak on their exposed portion. Divested of all technicalities, the condition means that with the loss of vacuum the pumps cannot draw water through the suction pipes, and therefore cannot deliver water through the mains of your distribution. Recently both engines, say the beam and the Allis lost water in this manner. On the last occasion the city was without water at adequate pressure from 5 p. m. to 9 p. m. on Sunday Dec. 6th. Had the fire at the Morris building on Tchoupitoulas street (which was at an approximate date) occur-ed during this condition, New Orleans would not only have been without a domestic supply, but would have suffered one of the largest conflagrations in her history.

These engines have lost water before; but a kind Providence has so timed these occurrence- that disaster has not ensued. It is competent I think for this company to guard against the recurrence of such troubles as I have described. I am competently advised that filled priming tanks somewhat exceeding the capacity of the suction pipes will effectually obviate the trouble, and that the emptying of these priming tanks into the suction pipes will at once enable the pumps to resume their duty when that duty has been suspended under the described circumstances or conditions.

After comparing notes with your own station engineer and Mr. McCorkingdale (managing engineer of the La. electric light plant) and learning the practical experience of the latter under similar circumstances and conditions, I am encouraged to say that the most feasable plan to cover the emergency will be the erection of tanks of 150,000 gallons capacity for priming purposes, the cost of
209 which will be from $1800 to $2500.

Under instructions from your president I am now investigating the relative merits and cost of wooden and iron tanks for the purpose described.

The beam engine recently overhauled by the E. P. Allis Co., of Milwaukee, Wis., is not working at all satisfactorily. As I witnessed its operation today, I should say it was dangerous. That it should be in use now is due to the necessity for repairs to the Allis pumps in the matter of replacing valves, etc.

The difference in the stage of water in the river at this time and at the time of acceptance of the work from the Allis Co., has much to do with the existing trouble.

It is now dangerous to run this beam engine, and your reliance falls back upon the Allis pumps.

I have written the Allis company today asking urgently their attention to the matter.

As corrected
L. H. G.

210 FEBRUARY 3RD, 1897.

My report for February which was not read, for lack of a meeting, may be briefly summarized. Owing chiefly to a low stage of the water in the river, both your main engine and the Allis pumps lost their water by failure of vacuum in the suction pipes. Fortunately the longest duration of this condition was on a Sunday, December 6th and the city was without water at adequate pressure from 5 p. m. to 9 p. m. In the matter of the loss of water supply to the city by this breaking of vacuum in the suction mains, your president has decided to utilize the existing reservoirs for the purpose of priming these pipes. This involves the laying of some 600 feet of 12-inch pipe with appropriate connections. Bids *was* invited for this work and award was made to J. C. Burns for the sum of $533.50 for labor only, this company furnishing the pipe and other material.

On January 15th contractor Jas. C. Burns completed the laying of a 6-inch pipe etc., on Webster street from Garfield to Prytania street, involving 685 feet 6-inch pipe, 18 feet 4-inch pipe, one Holly fire-hydrant.

The 30-inch main on Delta & Front streets is again leaking in several places, the damage being caused by railroad traffic. I have had a conferrence with Capt. O. M. Dunn, supt. of the I. C. R. R. Co. and he promised to take up the matter immediately with the chief engineer of his company with a view to permanent repair of existing leaks and in connection therewith to devise if possible some method to prevent similar trouble hereafter.

As corrected
L. H. G.

211 Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 58345.

It is hereby agreed that the foregoing copies of the report of L. H. Gardner, superintendent, offered in evidence, made be filed in lieu of the original, and go to the Supreme Court without recopying.

(Signed) BENJAMIN RICE FORMAN,
Att'y for Pl'ff.
" J. R. BECKWITH, *Att'y for Def't.*

212 *Submitted.*

Extract from Minutes, Division "E."

SATURDAY, *April 7th*, 1900.

Present: Honorable Geo. H. Theard, judge, sitting in chambers.
This case came on this day for argument.
Present: B. R. Forman, Esq., for plaintiff. J. R. Beckwith, Esq.,

E. H. McCaleb, Esq., E. B. Kruttschnitt, Esq., for defendant. B. K. Miller, Esq., for intervenor, The Board of Liquidation of City Debt. J. J. McLoughlin, Esq., for intervenor, The City of New Orleans.

And after argued and submitted the matter, the court took the same under advisement.

213 *Reasons for Judgment of the Honorable George H. Theard, Judge. Rendered and Filed October 19th, 1900.*

Civil District Court for the Parish of Orleans.

THE STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Opinion and Decree of Hon. George H. Theard, Judge, Division E.

214 Civil District Court for the Parish of Orleans.

THE STATE OF LOUISIANA
versus
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Opinion and Judgment of Hon. George H. Theard, Judge, Delivered and Rendered October 19th, 1900.

M. J. Cunningham, attorney general; James J. McLoughlin, assistant city attorney; Samuel L. Gilmore, city attorney; Benjamin Rice Forman, of counsel for State and city of New Orleans.

Branch K. Miller, for intervenor.

J. R. Beckwith, Farrar, Jonas & Kruttschnitt, E. Howard McCaleb, for defendant.

Opinion.

Civil District Court, Division E.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

215 Reasons for judgment: The General Assembly, at its session held in this State during the year 1898, adopted on June 9, under the number 5, the following concurrent resolution:

"Whereas, the supreme court of Louisiana has decided that the New Orleans Water Works Company has violated the terms of its franchise by charging consumers a higher rate than the franchise granted them by the State allowed them to do; and

"Whereas, there exists a general complaint of the quality and quantity of water supplied by said company;

"Be it resolved by the senate, the house of representatives con-

curring therein, That a committee composed of five members be constituted, two of said members to be appointed by the president of the senate, and three to be appointed by the speaker of the house of representatives, with instructions to investigate the above-mentioned complaints, and the methods of operation of said New Orleans Water Works Company; and

"Be it further resolved, That the committee report back to the General Assembly such action as they may deem necessary for public interest in the premises."

The committee called for by this resolution was duly appointed, made the required investigation, and submitted the result of its labors in two reports—one by a majority and the other by a minority of its members—shortly before the close of the legislative session. The action of the legislature upon these reports is embodied in the following concurrent resolution, of date July 14, and bearing the number 150:

"Whereas, the majority and minority reports of the joint committee of the house and senate, appointed to investigate the affairs, administration and condition of the New Orleans Water Works Company, have been submitted to the General Assembly, together with the testimony and evidence adduced at the various sessions of the said committee, and

"Whereas, the subject-matter of the said reports involves the consideration and determination of intricate questions of law and fact; and

"Whereas, it is impossible, in view of the limited time at its disposal for the General Assembly to give the matter the examination and consideration necessary for a proper determination thereof;

"Be it, therefore, resolved by the senate, the house of
216 representatives concurring, That the whole subject-matter of the said report, together with the testimony and evidence upon which they are based, be respectfully referred to the attorney general of the State for such action in the premises as he may deem proper." (Acts 1898, page 264.)

On July 12, two days prior to the date of this resolution, the following motion was unanimously adopted by the common council of the city of New Orleans:

"Whereas, the evidence adduced in the recent investigation of the New Orleans Water Works Company by the joint committee of the legislature, and the report of that committee show that said company has violated in many essential requirements the obligations of its charter, and

"Whereas such violations have caused and are daily causing great injury to this community, and are a menace to the health and comfort of the inhabitants of New Orleans;

"Be it moved, etc., That the honorable the attorney general of the State of Louisiana be and he is hereby requested to institute proceedings before the proper tribunal, having for their object the annulment of the charter granted to the New Orleans Water Works Company by the State of Louisiana.

"Unanimously carried."

Acting in pursuance of the mandate conferred upon him by the General Assembly, as aforesaid, and in the exercise of the discretion vested in him thereby, as well as in deference to the request of the city council, the attorney general, assisted by counsel of his selection, brought the present action, in which the sovereign State of Louisiana prays its courts to decree, in the alternative, that the New Orleans Water Works Company has forfeited its charter, or that it has at least lost the monopoly of furnishing water to the city of New Orleans and its inhabitants.

The general ground upon which the State's demand is predicated is that the water works company "has been guilty of repeated and continuous violations of its obligations and duties to the people;" and the particular obligations and duties charged to have been violated are specified in twelve numbered paragraphs, the substance of which is:

217 First. That throughout twenty years of its existence, the water works company has failed to furnish the inhabitants of New Orleans with an adequate supply of pure water for all purposes, and has given them instead an insufficient and very inadequate supply of very muddy water.

Second. That this muddy and very impure water has been and is now wholly inadequate to extinguish fires, to wash yards, alleys, and streets, and is not fit for drinking or cooking, or for bathing or domestic purposes.

Third. That defendant has not complied with its duty, within six months after its organization and from year to year thereafter, to erect works and pipes sufficient in capacity to give an adequate supply of water to the people of New Orleans, exclusive of the fifth district. That there are now only 121.5 miles of water mains, while there are 580 miles of improved or built-up streets with houses needing an adequate supply of pure water, being less than one-fifth the amount necessary for an adequate supply of water. That the water supplied is muddy and unfit to be taken into the human stomach, and unfit for steam-engines, and not accessible to more than one-fifth of the houses in New Orleans for extinguishing fires or washing yards and streets.

Fourth. That where the mains are laid the supply has been and is so inadequate that the firemen could not and cannot get water to extinguish fires, and in consequence thereof many millions of dollars of property have been lost or destroyed.

Fifth. That the company has habitually exacted and collected greater rates for the use of water supplied by it than those prescribed by its charter.

Sixth. That in disregard of its duty as a public corporation, affected with a public use, and charged with a public duty to treat all inhabitants alike, it has constantly and habitually shown favoritism and exacted higher rates from some than others for similar service, and has charged the large and wealthy consumer much less, in proportion, than the smaller and poorer consumers.

Seventh. That it was and is prohibited by its charter from
218 declaring or paying any dividends, except out of the net semi-annual or annual receipts, after payment of all expenses of operation, as well as the cost of the gradual extensions of its mains and pipes necessary to furnish an abundant and fully adequate supply of pure water to all the inhabited portions of the city of New Orleans, and that in violation of said prohibition it has illegally declared and paid dividends, year after year, when it had not extended its pipes and water service, as required, and when it has not paid all expenses of operation of the small and inadequate extensions of its mains and pipes and the interest on its bonded debt; and dividends were declared and paid from other sources than its net profits, and when there were legally no net profits.

Eighth. That it has not complied with its contract with the city of New Orleans, dated 3d of October, 1884, because it has not maintained a head or pressure of 50 feet from 7 a. m. to 6 p. m., as required by said contract.

Ninth. That the management has been negligent and needlessly expensive, and detrimental to the public weal, as shown by the fact that although coal, materials, machinery and labor are all cheaper now than in 1878, yet the cost, under said management, of pumping 1,000,000 gallons of water today (in 1898) is greater than it was in 1877.

Tenth. That the New Orleans Water Works Company, by accepting the benefits of act No. 56 of 1884 of the General Assembly, amending its charter, by act passed before J. D. Taylor, notary, on the 3d day of October, 1884, and by receiving from the city of New Orleans ever since money for water for public buildings, washing streets and extinguishing fires, has abandoned and renounced its monopoly and exclusive privileges, which became extinct under articles 234, 248, 258 and 46 of the constitution of 1879.

Eleventh. That in 1878 or 1879 it illegally sold or issued its own stock of the par value of $100 at $33 per share, when it had no power to issue it at less than $100 per share.

Twelfth. That by section 9 of its charter it was forbidden
219 to issue any bonds or mortgages without the consent of the council of the city of New Orleans, and then only for the purpose of improving and enlarging its works and increasing its supply of pure water, but that it has illegally evaded said prohibition, and has done indirectly what it was prohibited from doing directly, by issuing demand notes reaching $110,000 in amount, either for the purpose of illegally paying dividends which it had never earned, or of paying for its inadequate extensions, instead of issuing its mortgage bonds for enough to complete the distribution of its mains through the built-up portions of the streets.

The State thereupon prayed for judgment as above mentioned, decreeing, in the alternative, either that the company had forfeited its charter, or had lost the monopoly granted thereby.

After excepting on dilatory and peremptory grounds, which were overruled by the court, the defendant filed an argumentative an-

swer, denying generally the averments contained in the petition of the State, and urging special defences, which the court deems proper to set forth in substance at some length, because they expound fully the points of law and of fact relied on by the defendant.

It says that it acquired corporate existence from act No. 33 E. S., of the legislature of Louisiana, held in the year 1877, as amended by act 43 adopted in 1878, under the following circumstances:

That by an act of the legislature, approved April 1, 1833, the late Commercial Bank of New Orleans was incorporated with authority and charged with the duty of providing a water works plant and system for the city of New Orleans, and immediately complied with that grant and duty by constructing water works and operating the same; that, as authorized by said act, the city subscribed for 500 shares of the company's stock and gave in payment therefor its bonds for the full amount of $500,000, said bonds bearing interest at the rate of 5 per cent. per annum, redeemable in forty years from the date thereof; that it was also enacted in said act that if at the expiration of thirty-five years
220 the city desired to purchase said water works the company was compelled to sell the same to the city for a price to be ascertained by arbitration—the price to be paid by the city in its municipal bonds, bearing interest at the rate of five per cent. per annum, redeemable in not less than ten years, nor more than thirty years; that at the expiration of said period of thirty-five years, the city elected to purchase the water works, arbitration was had, and the price of the property was fixed at $2,000,000; that after deducting from said purchase price the value of the shares of stock held by the city and its share of the sinking fund of said bank, there remained a balance of $1,393,400 to be paid by the city to said bank in said bonds, as authorized by said act; that, thereupon, the Commercial Bank of New Orleans, by notarial act of sale, passed before Andrew Hero, Jr., a notary public in and for the parish of Orleans, on the 19th day of January, 1869, sold and transferred the water works, together with all rights, franchises and monopolies connected therewith, to the city of New Orleans, which delivered in payment to the vendor its municipal bonds bearing 5 per cent. interest, maturing in thirty years from the date thereof, to the amount of $1,393,400; that from the date of said purchase, until the 9th of April, 1878, the city of New Orleans was sole owner of the water works, with full power to enlarge and improve the plant if found inadequate to provide the requisite quantity and quality of water to meet the demands of the city and its inhabitants for all purposes, but that, deeming the water works adequate in all respects, the city did not, during its ownership, increase or improve the efficiency or capacity thereof, but rather diminished the same by allowing the plant and works to become lessened in capacity by decay and dilapidation; that the city's administration of said water works was not successful; that it allowed the bonds which it had given to the Commercial bank to become dishonored by non-payment at their maturity, and that it was unable to meet its current

obligations constituting its floating debt, and amounting to several million dollars; that such being the financial condi-
221 tion of the city, the State legislature attempted to rescue it in part from bankruptcy by various devices, one of which was to sell or exchange the city asset consisting of its public water works, for money or in exchange for the matured obligations of the city, to some purchaser who would take the property, with such added franchises and rights as would apparently make the property valuable in the hands of such purchaser; that to accomplish this end the legislature was compelled to provide for the creation of a corporation to effect an aggregation of capital sufficient to purchase the water works at the price for which the State offered the same for sale, to wit: $2,000,000, and its extra session in 1877 adopted said act No. 33, and tendered said water-works property and rights for sale under the terms and conditions of that act; that the State having soon become satisfied that those terms and conditions were too burdensome, there was enacted at the next session of the legislature an amendatory act, No. 43 of the acts of 1878, again offering the same property for sale, together with the rights, privileges, franchises and exemptions conferred in said legislation, as amended; that thereupon persons sufficient in number and amount of the holders of the city's obligations described in said legislation were found who were willing to organize the corporation provided for and who, after having subscribed stock to the extent of $2,000,000, and after having also surrendered to the city of New Orleans obligations of the character named in said legislation to the amount of $500,000 par value thereof, to be cancelled and held by the city, met together, prior to the 9th day of April, 1878, and in due form organized the corporation provided for, and in all things became a corporation as The New Orleans Water Works Company, defendant herein, and immediately, as required by said legislation, made and issued in due form, and delivered to the city of New Orleans, full certificates of ownership of the entire 20,000 shares of stock constituting the entire capital stock of the defendant corporation, conferring the same upon the city of New Orleans in full and complete ownership, not subject to any assessment or demand of the corporation
222 thereon; that the defendant corporation never received into its treasury one dollar from the amount of its capital stock, the city owning and holding every share as the stipulated purchase price; that on the 9th day of April, 1878, in order that there might be authentic evidence of said purchase and sale, the city of New Orleans, by a notarial act, passed before G. Le Gardeur, Jr., notary public, sold and transferred to defendant all of the property, rights, servitudes, privileges and franchises connected with said water works, and owned by the city in connection therewith and acquired from said Commercial Bank of New Orleans, or from any other source, as well as all the rights, franchises, exclusive privileges enumerated, created and named in said act No. 33, E. S. of 1877, and act No. 43 of 1878, as well as all the rights, monopolies and franchises granted to the Commercial bank under and by the pro-

visions of the said act of 1833, incorporating the said Commercial Bank of New Orleans, that had been assigned and had come to the city under the terms of its purchase of the water works from the Commercial bank, as contained in said notarial act of transfer of the 19th of January, 1869, before Andrew Hero, Jr., notary; that there is no holder of a share of the capital stock of the defendant corporation except the city of New Orleans itself that does not hold his shares of said stock by title traceable to the city of New Orleans, the original holder and owner of the entire 20,000 shares of stock authorized by act No. 33, and that no other shares were ever issued or have ever been in existence; that the city of New Orleans had sold or exchanged, in extinguishment of city obligations, all of said 20,000 shares of stock, except 3,927 shares thereof, that are as yet not disposed of, by sale or exchange for city indebtedness; that the last-mentioned shares were held in the name of the city itself, as owner, until, in compliance with a judgment of the civil district court for the parish of Orleans, affirmed by a judgment of the supreme court of the State, the said shares of stock so standing in the name of the city were transferred to the board of liquidation of the city debt, and have since said transfer been held by the board
223 for the city as an asset of the city for the extinguishment of its debts, subject to the trust imposed thereon by said act No. 33, and all earnings and dividends thereon have since been paid to the city through said board of liquidation.

Further answering, defendant says that the State of Louisiana, being well aware that the entire capital stock of the New Orleans Water Works Company was to be given to the city of New Orleans, and that defendant would not receive a dollar in funds in its treasury to enable the corporation to carry out the obligation imposed upon it, and in order that the funds might be obtained to accomplish that purpose, in section 9 of said act No. 33, conferred power on the defendant to borrow money for the purposes therein stated and, with the consent of the city council, secure payment of bonds issued for that purpose by a mortgage of all the property and franchises of the company, including its franchise to be a corporation; that defendant has twice availed itself of this right and power to issue its bonds, secured by mortgage, after having first obtained the permission of the council of the city of New Orleans so to do—the first time on the first day of April, 1879, when it executed before James Fahey, then a notary public, an act of mortgage to secure its bonds to the amount of $500,000, and that of the bonds so secured bonds to the amount of $395,000 have been issued and the money therefor received by the defendant; that afterwards, by another act, before C. T. Soniat, a notary public, on or about the 22d of December, 1892, defendant, with like consent of city council and for like purposes, executed a junior mortgage to secure a loan of $250,000, represented by bonds of the defendant, due in twenty-five years, which bonds are all as yet unmatured; that both of said mortgages, bearing among other things upon defendant's franchise to be a corporation, are duly recorded

in the proper offices, and all the world has notice thereof, and that the holders of both said series of bonds under said mortgages have a right of property in the grant which was made to defendant by the State of said franchise to be a corporation, which was
224 hypothecated to them in good faith, and they cannot lawfully be deprived thereof, nor can their property therein be injured or impaired in value, in this action, or in any suit or action in court to which said holders are not parties, and defendant pleads, as one defense against plaintiff's action and demand, that said holders of such bonds are indispensable parties to this action.

Further answering, defendant says, that as appears from the foregoing recital of the acts and matters connected with its creation, the grant of corporate life to the city of New Orleans was not, as is usually the case in grants of corporate life, for the purpose and in consideration only of the establishment of public works or improvements of a public character, that is to say, where the only consideration passing to the State for the grant of corporate life is some supposed increased general public benefit resulting from the construction and installation of public works, as in the case of ferries, bridges, railways etc.; but, on the contrary, in the case of the defendant corporation, the contract and agreement between the State and this defendant was and is an unquestionable contract of bargain and sale of all the property, rights and franchises named in act 33 and the amendatory act No. 43, for an exact price fixed by the State in its offer of said property for sale, and accepted and paid by the defendant in a bargain in which the State was not acting alone in its character of sovereign, but as a merchant and trader in commerce, and that in the bargaining and sale of said property and franchises the State must, in law, and by the courts, be considered as a trader engaged in driving a hard commercial bargain in its own interest and on its own terms, for its own benefit and profit; that it was not the real motive of the State, in this bargain, to benefit the inhabitants of New Orleans by providing for them a water-work system and plant, for they had for years before that time possessed a public water supply, water works and system; nor was it the intent of the State in this bargaining to provide authority to enlarge and improve the then existing water works, for the city, the then owner thereof, had full power to extend, enlarge and improve its water
225 works at will without resort to the legislature for authority; that if the complaint was that the city possessed insufficient funds for that purpose, a simple act allowing the city to specifically mortgage its water works would have provided funds for that purpose, in addition to the money arising from the revenue of the water works or from other revenue sources; that the true and actual legislative intent in said legislation was to sell the property, real, personal and mixed, and all the added rights and franchises contained in said legislation, including the right and franchise to be a corporation, created in said legislation, as an inseparable entirety and mass, in order to obtain the means and resources from the purchaser theerof to pay or extinguish $2,000,000 of the public

and floating debt of the city of New Orleans; that the right to be a corporation was a large and extremely valuable part and portion of the property so offered for sale by the State, and so sold to defendant, and for which it paid the bargained consideration and price of $2,000,000, and that said right to be a corporation cannot lawfully be, in this action or by any other means, segregated from the other property and destroyed, as is sought in this action by the State, such segregation and destruction being in fraud and bad faith whilst the State holds and retains the price paid by this defendant; that said contract of bargain and sale is in all respects the same in law as if it had been made and entered into by and between private citizens and traders, and cannot be assailed or recalled by the State otherwise than in the manner prescribed by the code for the rescission of contracts between individuals; that said contract was, and is, protected from all impairment at the hands of the State by the Constitution of the United States, particularly in the first article thereof, section 10, at all times bearing on the State of Louisiana as a prohibition whilst acting or moving as plaintiff in this action, in impairment of the faith of its own contract, to the same extent as if such impairment had been attempted through and by means of legislation compassing the same result; that the general resolution of the State legislature referred to in the petition herein, and any other statute authoriz-
226 ing or directing the attorney general to bring this action, are severally repugnant to the Constitution of the United States, particularly to section 10 of article 1 thereof; that in and by act 56 of the acts of 1884, the State of Louisiana has recognized defendant as an existing corporation with full power to exist free from any cause of forfeiture of its corporate life, and free from lawful grounds for the rescission of the contract, bargain and sale with which its corporate life is indissolubly welded, and neither the city of New Orleans nor the State of Louisiana has at any time tendered back to defendant the price and consideration that defendant paid for said corporate life and other property, nor the value and cost of any betterment of any of said property by defendant while in possession thereof; nor has either of them in any way offered or attempted to restore defendant to the condition in which it stood at the time when it purchased its corporate life and other property, as required by law in the case of the rescission of contracts; nor has either the State or the city of New Orleans in any manner attempted to put defendant in default for any alleged non-performance of said contract with the State of Louisiana.

Defendant further says that the great depreciation in the market value of the stock held by the city of New Orleans in the water works company has been the result of bad faith, attacks, assault, slanders and libels of the city as a shareholder having a three-seventh representation on the board of directors of defendant corporation; that the said resolution or ordinance referred to in the petition was adopted in bad faith, was and is no warrant or authority for the institution of this action by the attorney general for and in

the name of the State, and is repugnant to law, to the constitution of the State, and to section 10 of article 1 of the Constitution of the United States, as impairing the faith of the contract between the defendant and the State of Louisiana, in which the city of New Orleans, an integral part of the State, was chief beneficiary as well as a party.

Defendant then proceeds to answer seriatim the twelve dis-
227 tinct causes of forfeiture propounded by the State, and says in substance:

That defendant has at all times more than complied with its obligations, both as to the quality and quantity of water supply and as to the pressure and rapidity of delivery with which the supply has been furnished; that the supply is from the Mississippi river, at the same point at which the water had always been taken, and is the same in quality and condition as the water of the river from which it has at all times been and is still taken, and which is the source of supply pointed out and designated in the original charter of the company—act No. 33 of 1877, E. S.—and in the charter of the Bank of Commerce—act of 1833, page 151—to whose rights and privileges defendant has succeeded; that defendant's only obligation was to furnish water at a height of fifteen feet from the ground wherever the pipes of the company existed in 1878, said water to be furnished in the same condition in which it was taken out of the river; that extensions of its mains and pipes were to be made only upon the condition that the revenue derived from water rates would equal 10 per cent. of the cost of extension; that, although not obligated thereto by its charter, it has supplied water wherever it is needed in the city of New Orleans in ample quantity, rising to the required height at all times save when, through the carelessness of the city, hydrants were left open in contravention of the provisions of its contract with the company; that it has not exceeded the tariff of water charges adopted by the city in 1870, because there never was any such tariff; that plaintiff has mistaken the true import and meaning of section 15 of the charter of the company; that that section conferred upon the board of directors legislative power and authority to establish and fix the rate of water charges for water sold, subject only to the condition that the rates should not be so high as to yield a net profit of more than 10 per cent. per annum on the $2,000,000 of the capital stock of the defendant, and also provided that the rates charged should not exceed in amount the rates which the city had a right to
228 charge for a like supply at the time of the adoption of the charter of the company; that the right to establish rates carries with it all the legal incidents connected with that power, one of which is the legal presumption of the correct exercise and use thereof by the possessor, not to be overthrown except by an adjudication of a competent court; that the board of directors, consisting of seven members, three of whom have always been officers of the city, representing it, have established and fixed the rate of charge for water furnished to consumers, and the presumption of correct legislation

in this exercise of power has never been overthrown or adjudicated against the company in any suit by the city or the State; that the rates charged have never yielded 10 per cent.; that if it were true that the defendant had charged more than it lawfully should, then the fault, if any, was as much the fault of the city as of the defendant, as the city not only participated in the establishment of the rate of charges complained of, but in the dividends accruing from the charging of the same, whereby the city and the State, through the city, are estopped from in any manner asserting any such unlawful or illegal charge; that no proceedings for forfeiture of defendant's charter could be lawfully based on any alleged non-compliance with section 15, because said section provides for its own enforcement in the courts by legal proceedings at the suit of the city, with which duty the city stands charged by command of the State; that in order to enable the city to perform its duty, not only was it given three members out of the seven members of the board of directors, but it was also given the right of visitation by the city council, through a committee of five councilmen, for the purpose of determining whether the restrictions imposed by section 15 had been observed by the board of directors, as well as whether there had been any overcharge in water rates or any excess of net earnings over the limitation fixed in said section; that the company has not discriminated between the poor and wealthy consumers; that discrimination in charges for public service is not a ground of forfeiture; that the company has not declared or paid
229 dividends in disregard of section 10 of its charter; that it has, to the best of its knowledge, in all things complied with its contract obligations with the State of Louisiana, and observed all of the restrictive conditions contained in said contract, and has violated none of them; that the city of New Orleans, through its representation on the board of directors of the defendant, as well as by and through the annual reports of the defendant to the State and to all other shareholders, has at all times participated in the management of defendant's affairs and been cognizant of the condition and management thereof, participated therein and received all benefits, earnings and dividends, to the extent of the proportion thereof accruing to the 3927 shares owned by the city and constituting approximately one-fifth of all dividends declared by defendant, and has never tendered back to defendant any part thereof, but, on the contrary, has expended said dividends for its own purposes as part of the city revenues; whereby the city is, both by good conscience and in law, estopped from assailing defendant for any pretended illegality in the declaration or payment of any dividends, or for any other reason involved in the management of its affairs through its board of directors; and that the city is so estopped, either directly or through the State, in this action; that the contract of October, 1884, is with the city and not with the State, and the latter, not being privy thereto, can find in the failure to comply with its stipulations no cause for forfeiture; that act 56 of 1884, was not an amendment to defendant's charter conferring some benefit upon it; that it

never was accepted by defendant, and even if it was accepted it did not have the effect of abolishing and extinguishing defendant's monopoly and exclusive privileges; that defendant has not sold or issued its own stock below par; that the company had the right to issue demand loans in the exercise of the power given it by section 9 of its charter to borrow money for the purpose of improving and enlarging its works, and the consent of the city to the exercise of that power was necessary only in case the company deemed
230 it proper to borrow on its bonds secured by mortgage of its works and its franchise to be a corporation.

The company therefore prayed that plaintiff's demand be rejected.

Thereupon two parties intervened: First, the board of liquidation, which averred that, as the holder in trust for a given purpose, defined in the legislation prescribing its duties, of the 3927 shares of stock of the defendant company owned by the city of New Orleans, the said board had an interest in defeating the State's demand; and, secondly, the city of New Orleans, which averred that, as the party for whose benefit concurrent resolution No. 150 of 1898 had been adopted, it was interested in joining the State in its demand. The city also challenged the right of the board of liquidation to intervene, charging it with unlawfully detaining the shares of stock owned by the city after the debt, to which they were held in pledge, had been extinguished, and claiming that the board of liquidation should return said shares to the city.

Those parties should not have been allowed to intervene. In order to be entitled to intervene, it is not enough to have an interest in the success of either of the parties to a suit or an interest opposed to both. Art. 390 C. P. The interest must consist of an actionable right, *i. e.*, a right susceptible of enforcement in an original or direct action. To hold otherwise would be to place an intervenor in a better position than a plaintiff. Now, the city could not sue for the forfeiture of defendant's charter. Actions for forfeiture can be brought by the State only. It is the prerogative of the State alone, as grantor, to recall the franchises granted to corporations when the conditions of the grant have been violated. If the State forbears to avail itself of its prerogative, and chooses to waive the forfeiture, none can complain. Nor can any one act in its stead, save under power expressly delegated by law. Atchafalaya Bank *vs.* Dawson, 13 Louisiana, 497. The city points to no such power.

Although adopted practically for its benefit, resolution No.
231 150 of 1898 contains no delegation of authority to the city of New Orleans to sue for a forfeiture. It designates the attorney general, and no one else, as the party authorized to act in the premises on behalf of the State. The city cannot be permitted to do by intervention what it could not do by direct action.

The same reasoning applies to the board of liquidation. An action for forfeiture of charter lies between the sovereign and its creature, the offending corporation, and between them alone. The action is *sui generis*, and is not governed by the rules of practice applicable to actions in general. In it third persons find no place. The

impleaded corporation alone must stand in its own defense. This the defendant corporation has done; it is in court resisting the State's demand. It needs no champion to fight its battle.

On the principle that a creditor is interested in defeating all other claims against his debtor, the mere fact of being a creditor should entitle one to intervene in lawsuits against a common debtor; yet it has been held that one cannot, simply because a creditor, intervene in his debtor's suit; he must show some direct interest to be affected, based on some right or lien, conventional or legal. Brown *vs.* Saul, 4 N. S., 434; Pierre *vs.* Masse, 7 N. S., 197.

Being now firm in the conviction that the board of liquidation and the city of New Orleans have failed to disclose a right of action, my imperative duty is to dismiss their respective interventions, with costs. Whatever views to the contrary I may have expressed in ruling upon the exceptions filed to said interventions were erroneous and are hereby recalled. By acknowledging its error, the court puts an end to the embarrassing, as well as unusual, contest sought to be interjected herein, between the board of liquidation, on the one side, charging the city with attempting to depreciate, and perhaps ultimately destroy, a valuable asset pledged to its creditors,
and the city, on the other side, claiming that even the total
232 destruction of such an asset is justifiable in the endeavor to secure for the people an adequate supply of pure and clear water.

The cause is, therefore, before the court solely upon the issues formulated by the petition and the answer.

For the proper determination of those issues the inquiry is: Has the defendant failed to observe the conditions imposed by its charter? If it has, forfeiture ensues and corporate life becomes extinct; for the code says, in plain and unmistakable language, that a corporation is dissolved "by the forfeiture of its charter when the corporation abuses its privileges or refuses to accomplish the conditions on which such privileges were granted, in which case the corporation becomes extinct by the effect of the violation of the conditions of the act of incorporation." C. C. art. 447 (438). But, although extinct, the corporation continues to be treated as a living concern until, at the suit of the State, its charter has been declared forfeited by the judgment of the court. The State must move in the matter. Having, as has been shown, the power to disregard or to waive, its silence means either forbearance or condonation, of which no third party has the right to complain; and until the State has moved and the courts have decreed the forfeiture, the corporation remains in the full enjoyment and exercises of its rights and franchises. Atchafalaya Bank *vs.* Dawson, *ubi supra*. In this instance, the State seems not to have condoned, but merely forborne. Its silence has been broken, and it is before the court complaining that the conditions upon which defendant obtained its grant of privileges have been violated, and asking for the enforcement of the penalty.

What, then, were the conditions attached to defendant's grant of corporate existence? They are to be found in act No. 33 of the extra

session of 1877, and the amendatory and supplementary act No. 43 of 1878, which, together, constitute defendant's charter.

The history of that legislation is briefly told. The Commercial bank was given corporate life as early as the 1st of April, 1833, by an act approved on that day, and reported at page 151 of
233 the acts of the legislative session of that year, for the purpose of supplying the city of New Orleans and its inhabitants with water from the Mississippi river, and thereby relieving the city from a burdensome public duty. The incorporating act is entitled "An act to incorporate the Commercial Bank of New Orleans," and recites, *inter alia:*

"Whereas, sundry inhabitants of the city of New Orleans have petitioned this General Assembly, setting forth that they are desirous of establishing a company in the city of New Orleans, invested with banking privileges, and to be entitled the 'Commercial Bank of New Orleans,' the chief object of which said company is to be the conveying of water from the river into the city of New Orleans and its faubourgs and in the houses of its inhabitants; and whereas the said object will greatly contribute to the security of the said city from fire, and to the health and convenience of the inhabitants and the agricultural and commercial interests of this State may be greatly promoted by extending to said company the privileges required; therefore,

"SECTION 1. Be it enacted, etc., That a company shall be established in the city of New Orleans, the original stock whereof shall be $3,000,000, and shall be divided into 30,000 shares of $100 each."

Then follow provisions as to the manner in which subscriptions to the capital stock shall be made, after which the act says:

"SEC. 4. Be it further enacted, etc., That all such persons as shall become subscribers to said company, their successors and assigns, shall be and are hereby created and made a corporation and body politic by the name and style of the Commercial Bank of New Orleans, and by that name shall be and are hereby made capable in law to have, hold, purchase, to receive in payment of debts, possess, enjoy and retain, to them and their successors, property and estate of what nature, kind or quality soever, or so far as is necessary to carry into complete effect the object of this charter, which is declared to be the furnishing of the city with good and wholesome water; and the same to alien, transfer and dispose of, to sue and be sued, plead and be impleaded, answer and be answered, defend and be defended, in any court or courts of record or other place whatsoever; to have forever the exclusive
234 privilege, from and after the passing of this act, of *supplying the city and inhabitants of New Orleans and its faubourgs with water from the River Mississippi* by means of pipes or conduits, and for erecting, constructing or working of necessary engine; and they may contract for, purchase or lease the right to enter and pass through, from time to time, as occasion may require, any lands or grounds through which they may deem it necessary to convey the

said water into said city and its faubourgs, and to construct, dig, or cause to be opened, any canals or trenches whatsoever, for the conducting of the water of the river from any place or places that they may deem fit, and to raise and construct such dikes, mounds or reservoirs, as they may judge proper, for securing and conveying such supply of water, as aforesaid, to the said city and the faubourgs thereof, and to survey such lands as they may think proper, in order to ascertain the best mode of furnishing such supply, and to lay and place any number of conduits, pipes and acqueducts, and to cleanse or repair the same, through or over any of the lands or streets of the city of New Orleans and its faubourgs, and also to have and use a common seal, and the same to break, alter and renew at pleasure; and also, through their president and directors, to ordain, establish and put in execution such by-laws, ordinances and regulations as shall seem necessary and convenient for the government of said corporation, not being contrary to this act, nor to the Constitution and laws of the United States, or of this State, or ordinances of the city council of New Orleans, and generally to do and execute all such acts, matters and things as to them shall or may appertain to do; subject, nevertheless, to the rules, regulations, restrictions, limitations and provisions hereinafter specified and declared; *provided*, however, that at any time after the expiration of thirty-five years from the passage of this act, it shall be lawful for the corporation of the city of New Orleans to purchase from the Commercial Bank of New Orleans the water works constructed by said company, in virtue of this act, and said company shall not refuse to sell the works aforesaid, with all the rights and privileges appertaining to the same, on the terms hereinafter provided."

The act contains a number of other sections not necessary to recite.

On January 19, 1869, the city of New Orleans, availing
235 itself of the last provisions of section 4, above quoted, became the purchaser of the water works constructed by said Commercial bank and of all the rights and privileges appertaining thereto. It then undertook to supply itself and its inhabitants with water. It failed in the attempt. Its management of the water works proved disastrous, and resulted in complaints from its inhabitants that the water supply was insufficient. Because of extravagance and mismanagement, or for some other reason, the bonds which the city had given to the Commercial bank in part payment of its stock subscription of 5,000 shares of the capital stock of the bank at the time of its organization were, for the greater part, allowed to become dishonored in the hands of *bona fide* owners. The city also failed to meet the current obligations constituting its floating debt. Nine years after the city had assumed control of its water works it became necessary, in the face of practical bankruptcy, to appeal to the legislature for relief, and the city's appeal resulted in the creation of The New Orleans Water Works Company, defendant herein, by act No. 33 of the acts of the extra session of the Legislative Assembly held in the year 1877, of which the title is, "An act

to enable the city of New Orleans to promote the public health and to afford greater security against fire by the establishment of a corporation to be called the 'New Orleans Water Works Company;' to authorize the said company to issue bonds for the purpose of extending and improving the said works, and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water; to permit the holders of water-works bonds to convert them into stock, and to provide for the liquidation of the bonded debt of the city of New Orleans."

Its provisions are contained in eighteen sections of the following import:

Section 1 creates the corporation and fixes its capital stock at $2,000,000, divided into 20,000 shares of $100 each.

Section 2 provides for the issue of stock in these words:

"That immediately after the organization of said water
236 works company, as hereinafter provided, it shall be required to issue to the city of New Orleans stock to the amount of $606,600 as full-paid and not subject to assessment; and in addition thereto, one similar share for every $100 of water-works bonds which said city may have taken up heretofore and extinguished by payment, exchange or otherwise; and that the residue of said capital stock shall be reserved for the benefit of all holders of water-works bonds, to the extent of the amount now outstanding, who may elect to avail themselves of the provisions of this act; and the said water works company shall issue to the said city of New Orleans, to be exchanged with the holders of said bonds, one share of full-paid stock, not subject to assessment, for each and every $100 of said water-works bonds; and the said bonds, as fast as surrendered and exchanged for stock, as aforesaid, be canceled; that for the purpose of effecting said exchange of outstanding water-works bonds for stock, as aforesaid, the city of New Orleans shall be entitled to all the certificates for the shares of said stock of said New Orleans Water Works Company, and shall, by advertisement for six months in two newspapers in the city of New Orleans and two newspapers in the city of New York, give notice that it will exchange said stock at par for said water-works bonds at par, exclusive of the overdue coupons attached to said bonds, which shall constitute a separate demand against said city; and in case any of the said bondholders shall fail or refuse to avail themselves of this act within one year from the formation of said company, the said said city of New Orleans shall not thereafter be required to make said exchange, but may retain the unused shares of stock for its own account and benefit, unless it shall prefer to continue to take up any of said outstanding bonds by exchange as aforesaid."

By section 3 it is provided: "That the water works company shall be organized by the mayor of the city giving thirty days' notice that he will receive subscriptions of bondholders who may agree to exchange their bonds for stock as aforesaid, and the said city shall at once subscribe for stock to the amount of $606,000, and such further amount as shall equal the par value of any of said water-works

bonds, which shall have been extinguished by said city, and as soon as in addition to the subscription of said city there shall be subscribers for an exchange of said bonds for stock to the extent of
$500,000, and the said amount of bonds shall have been act-
237 ually surrendered to and canceled by the administrator of
finance, the said subscribers shall assemble together, on a day to be named by the mayor, and shall elect a board of directors, to consist of seven persons, four of whom shall be designated by the mayor, and the remaining three shall be elected by said subscribers, other than said city, from amongst themselves, and the persons thus designated and elected shall constitute the first board of directors, and shall continue in office until the 1st of July, 1878, and the said board shall elect one of their number as president."

Section 4 provides for the transfer of the water works to the company after the election of the board of directors.

Section 5 enumerates the privileges and powers of the company as follows:

"That the said water works company shall own and possess the privileges acquired by the city of New Orleans from the Commercial bank; that it shall have for fifty years from the passage of this act the exclusive privilege of supplying the city of New Orleans and its inhabitants with water from the Mississippi river, or any other stream or river, by means of pipes and conduits, and for erecting and constructing any necessary works, or engines, or machines for that purpose; that it may contract for, purchase or lease any land or lots of ground, or the right to pass over and enter the same, from time to time, as occasion may require, through which it may be necessary to convey the water into said city, or to distribute the same to the inhabitants of said city, and to construct, dig, or cause to be opened any canals or trenches whatsoever, for the conducting of the water of the river from any place or places it may deem fit, and to raise and construct such dikes, mounds, reservoirs, as may be required for securing and carrying a full supply of pure water to said city and its inhabitants; to enter upon and survey such lands as it may think proper, in order to ascertain the best mode of furnishing a supply of water; to lay and place any number of conduits, or pipes, or acqueducts, and to cleanse and repair the same, through or over any of the lands or streets of the city of New Orleans; provided, the same shall not be an obstruction to commerce or free circulation, and also to have and use a common seal and alter the same at pleasure; to ordain and establish by-laws for its
government and that of its officers and employés, not repug-
238 nant to this act and the constitution of the State and of the
United States, or the ordinances of the city of New Orleans."

Section 6 provides for the annual election of seven directors, of whom four are to be elected by the stockholders other than the city, and the other three are to be the mayor of the city, the administrator of water works and public buildings, and the administrator of finance.

Section 7 exempts from seizure the stock owned by the city.

Section 8 empowers the company to increase its capital stock to $2,000,000, to improve, enlarge and extend its works.

Section 9 reads: "That the board of directors of said company shall have power, in addition to the authority to increase its capital stock, to borrow money for the purpose of improving and enlarging its works and increasing the supply of pure water, and to accomplish this purpose the said board of directors are hereby authorized to issue the bonds of the company to an amount not exceeding $2,000,000, in such sums, on such terms and bearing such rate of interest as said board may determine, and the payment of said bonds, in principal and interest, may be secured by a mortgage of all the property and franchises of said company, including its franchise to be a corporation, and said mortgage may include the property and franchises of said company acquired or to be acquired, and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans shall operate on the property and franchises of said company, wheresoever situated, and shall be and constitute a valid and subsisting mortgage until the payment of the debt secured by it without reinscription; provided, however, that no bond shall be issued or mortgages given without the consent of the council of the city of New Orleans, and said bond shall not be sold or disposed of except on such terms as shall be approved by said council of said city."

Section 10 prohibits the company from declaring or paying any dividends except in cash, and then only out of the semi-annual or annual receipts, after payment of expenses of operation and the interest on its bonded debt; "nor shall any dividends be declared until the contemplated works are completed and in use."

239 Section 11 provided for a free supply of water to the city in these words:

"That the city of New Orleans shall be allowed to use water from the pipes and plugs of said company now laid, or hereafter to be laid, free of any charge, for the extinguishment of fires, cleansing of the streets and for the use of all public buildings, public markets and charitable institutions, and that the said company shall place, free of any charge whatever, two hydrants of the most approved construction in front of each square, where a main pipe shall be laid, at a suitable distance from each other, from which a sufficient quantity of water may be conveniently drawn for the extinguishment of fires, for watering the streets and cleansing the gutters, and for any other public purpose; that on the squares which do not front on the river the hydrants shall be placed on opposite sides of the street at an equal distance from each other and the corners. It shall be the duty of the said company, whenever main pipes shall be laid, to supply water for all the purposes herein mentioned, at all times during the continuance of this charter, and in consideration thereof the franchises and property of said New Orleans Water Works Company, used in accordance with this act, shall be exempt from taxation—State, municipal, and parochial."

Section 12 gives to the company the right to use the streets and

public places for laying pipes and hydrants; also the right of expropriation.

Section 13 reads: "That the said water works company, immediately after its organization, shall proceed to the erection of new works and pipes sufficient in capacity to furnish a full and adequate supply of water, to be drawn from the Mississippi river or elsewhere, as may be judged most expedient; that said new works and pipes shall be commenced within twelve months from the passage of this act, and shall be year by year completed, so that within five years from the date of this act they shall be completed, so as to give an adequate supply of water to the people of the city of New Orleans, exclusive of the fifth district. If said work be not done as above prescribed, said corporation shall forfeit all exclusive privileges granted herein, and the city shall have a right to contract with any one else for a supply of water as above provided, and to expropriate the property of the corporation hereby created. After the completion of the new works and pipes the said company shall, from time to time, as the wants of the population may require, and when the estimated revenue on the cost of such extension shall equal 10 per centum, extend their works throughout the entire limits of the city and suburbs, and any future extension of said city, and any failure by said water works company to comply with this provision shall work a forfeiture of this charter."

Section 14 authorizes the city to apply to the reduction of its bonded debt the stock of the company subscribed for by it.

Section 15 empowers the company to fix water rates in these words:

"That the said water works company shall have the right to fix the rates of charges for water; provided, that the net profits of the company shall not exceed 10 per cent. per annum, and shall publish sworn annual statements of its business and condition, and that the city council shall have the power to appoint a committee of not less than five, who shall have access to the books of the said company, and make such extracts from the same as they may deem necessary, and in case the said profit shall exceed 10 per cent., the city council shall have the right to require said company to reduce the price of water in such manner and in such a proportion that the profits shall never exceed the above-named rates; and provided, further, that the rates charged shall never exceed those now paid by the city, and in case said company shall refuse compliance the demand of said city may be enforced by a writ of mandamus."

Section 16 prescribes the penalty for obstructing the company in the execution of its work.

Section 17 provides for control by the city of the existing works until new works shall have been constructed, and provides further, that "at the expiration of fifty years from the organization of the company the city shall have a right to buy the works, conduits, pipes, etc., of the company at a valuation to be fixed by five experts, two to be named by the city, two by the company, and the four to select the fifth expert, but should the city neglect or refuse to pur-

chase said works, etc., as above provided, the charter of the
241 company shall be *ipso facto* extended for fifty years longer, but without any exclusive privilege or right to supply water, according to the provisions of the charter."

Section 18 provides: "That nothing in this act shall be so construed as to prevent the city council from granting to any person or persons contiguous to the river the privilege of laying pipes to the river, exclusively for his own or their own use."

This legislation did not bring about the organization of the desired company. Some of the provisions, notably that which gave the city the right to vote at all elections for directors, also that which maintained the city in control of the existing works until new works were completed, and again that which called for an adequate water supply without specifying the quantity or the pressure, may have appeared too onerous, and may have deterred the requisite number of bondholders from coming forward. The legislature, recognizing the necessity of modifying in some manner the conditions under which the projected company should acquire life, enacted at its next session, in the year 1878, on February 26, a supplementary act, bearing the number 43 of the acts of that session.

Section 1 thereof took away from the city the right to vote at the annual election for directors, its representation on the board by the mayor, the administrator of water works and public buildings, and the administrator of finance being deemed sufficient.

Section 2 amended section 10 of act No. 33 of the extra session of 1877, so as to read: "That said company shall not declare or pay any dividends except in cash, and then only out of the net semi-annual or annual receipts, after payment of expenses of operation and gradual extension, and the interest on its bonded debt."

Section 3 amended section 17 of said act No. 33, by striking out so much of it as related to the retention of the existing works by the city until the completion of new works.

Section 4 fixed the time for commencing new works at six
242 months after the organization of the company, instead of immediately after the date of the passage of said act No. 33.

Section 5 provided: "That the full, complete and adequate supply of water referred to in section 13 of said act No. 33 shall be so construed as to require a supply of water at the height of not less than 15 feet from the ground wherever the pipes of the water works now exist."

Section 6 restricted the company's exemption from taxation, as provided for in section 11 of said act No. 33, to municipal and parochial taxation.

The modifications brought by this act to the prior legislation of 1877 must have proved satisfactory to the parties interested, for shortly thereafter the organization of the New Orleans Water Works Company was perfected. To this company, on April 9, 1878, the water-works plant and all the privileges appertaining thereto were formally transferred by the city of New Orleans. Since then the water works have been under the sole administration of the defendant

company, with the duty imposed upon it to furnish an adequate supply of water to the city and its inhabitants. It is of that administration, participated in by the city officials, constituting three-sevenths of the board of directors, that the State is now complaining before the court, and for which it seeks, in the interest of the city, to have defendant's charter declared forfeited.

Are the grievances of the State against its creature, the New Orleans Water Works Company, well founded?

Of those grievances the first, which is to be gathered from the averments numbered 1, 2, 3 and 4 in the petition, is that the water supply is inadequate, both in quality and quantity. As to the quality, it is assumed by the State that defendant's duty was to furnish water that was pure and wholesome, in the sense of water clear and unmixed with any sediment, the averment of dereliction on that score being that the water furnished by defendant was
243 "muddy," "impure," "unfit to be taken into the human stomach," and "not fit for drinking or cooking or bathing or domestic purposes."

Defendant's charter does not warrant this assumption on the part of the State. When it is remembered that, in organizing the Commercial bank for the declared object of furnishing the city with good and wholesome water, the legislature designated as the proper source of supply the Mississippi river and no other; when it is recalled that, when it assumed control of the water works in 1869, the city of New Orleans did not change the source of supply, but continued to draw water from the Mississippi river and to serve it as drawn to its inhabitants; and when it is borne in mind that, in creating the defendant company for the purpose of assuming a burdensome public duty, unsatisfactorily discharged by the city, and of supplying it and its inhabitants with pure and wholesome water, the legislature again made mention of the Mississippi river as the proper source from which to derive such a supply, the conclusion forces itself upon the mind that the terms "supplying the city of New Orleans and its inhabitants with water," as used in defendant's charter, and read by the length of the title of act No. 33 as meaning "pure and wholesome" water, contained merely a direction to the defendant company to draw the water from a source then considered pure and wholesome, namely, the Mississippi river, and imposed no obligation upon said company to purify and free from sediment the water so drawn before supplying with it the city and its inhabitants.

This interpretation of the legislative intent is further strengthened by the reservation to the company of the privilege of obtaining the water supply from such other stream or river as may be judged most expedient, that reservation being evidently made in view of the possible future pollution of the Mississippi river and the consequent inability of drawing pure water therefrom, thereby necessitating a change in the source of the water supply. Furthermore, if any doubt remains that in speaking of pure and wholesome water, the
244 legislature did not mean clear and filtered water, that doubt must vanish before the legislative enactment bearing the No.

56 of the acts of the year 1884. That was an act "to provide for obtaining a supply of clear or filtered water by the New Orleans Water Works Company," which, after reciting in its preamble, "whereas, it is possible and desirable to furnish the inhabitants of New Orleans with clear or filtered water from the Mississippi river," enacted, by its section 4, "that to secure to the inhabitants of New Orleans and to the use of the city a supply of clear or filtered water, the city of New Orleans be and is hereby empowered to contract with the said company and determine upon terms and conditions, and fix a price for obtaining from said company such supply of clear or filtered water." Whatever may be said regarding the constitutionality of said act, or its effect on the charter rights acquired by defendant (of which more anon), here is an unmistakable declaration by the legislature, speaking for the sovereign State, that up to that time there was no obligation resting upon the defendant to furnish pure or clear water, and that such water could not be obtained from it by the city without enabling legislation.

Thus for the third time did the State, speaking through its legislative body, plainly indicate that in directing the water supply to be pure and wholesome it meant nothing more than that the water supply should come from a source that was at the time considered pure and wholesome, namely, the Mississippi river.

In showing that such is the source from which it draws, and has drawn, the water furnished to the inhabitants of New Orleans, the defendant has shown that it has discharged the full measure of its obligation regarding the quality of the water to be supplied. There is no pretense that there has been a contamination or pollution of the source, demanding a change. The Mississippi river, in condition, has remained unaltered, and the water now supplied therefrom is the same in quality as that which was drawn from it by the Commercial bank, under direction of the State; by the city of its own volition, when it assumed control of the water works by acquisition from the Commercial bank, and by the defendant company, in obedience to the dictates of the State, when it was given corporate life.

Although experts may differ as to the wholesomeness of the Mississippi River water, as they do on every question, the legislature has no reason to deny responsibility for selecting such a source of supply. For more than 200 miles above New Orleans the Mississippi river is protected by levees from the intrusion of water defiled by washings from swampy land. Its volume is enormous; its mighty, never-ceasing current rushes by the pumping station with extraordinary rapidity. Its water has been used by four generations of city inhabitants, and it is not claimed they did not live the allotted time, or that they were subjected to greater ills than fall to the ordinary mortal; on the contrary, late statistics show that the death rate of this community is much less than in others claiming better climatic conditions and boasting of a purer water supply, and that in point of salubrity New Orleans is without a superior. The State's complaint concerning the quality of th ter supply, therefore, is without foundation.

Its next grievance is as to the quantity of the water supply, and is to the effect, first, that it is inadequate to extinguish fires and to wash the yards, alleys and streets; second, that the water is unfit for steam-engines; third, that there are only 121.5 miles of water mains, whereas there are 580 miles of improved or built-up streets, thus leaving four-fifths of the population of the city without a water supply, in violation of defendant's obligation from year to year to so extend its works and pipes as to give an adequate supply of water to the people of New Orleans, exclusive of the fifth district.

There are only two sections in defendant's charter regulating the water supply, namely: sections 11 and 13 of act No. 33 E. S. of 1877, as amended. The State assumes that the former is in full force, whereas the defendant contends that it has, by solemn judicial decree, been stricken from the charter. Section 11 has, in fact, been twice the subject of consideration by the courts. It will be remembered that that section as amended provided for
246 the use by the city, free from charge, of water for the extinguishment of fires; for watering and cleansing the streets and gutters, for all public buildings, public markets and charitable institutions, and for all public purposes; and, to that end, directed that hydrants should be placed at certain distances throughout the entire city. "And in consideration thereof the franchises and property of said New Orleans Water Works Company, used in accordance with this act, shall be exempted from taxation, municipal and parochial."

This statutory exemption from taxation was respected by the city until the year 1881, when, upon being advised of an unbroken line of authorities holding that under the constitution of 1868, in force at the time of the organization of the company, there was no power in the legislature to exempt from taxation property other than such as was used for church, school or charitable purposes, the city undertook to assess the company for the taxes of that year, and to enforce the collections by suit.

The company resisted the city's demand, pleading exemption under section 11, and praying that in the event that such exemption be not recognized, inasmuch as it was the sole consideration for a free water supply, and that consideration had totally failed, judgment be given the company in reconvention for the value of the water supplied during the year, far in excess of the taxes levied upon it.

There was judgment in the district court in favor of the city for the taxes claimed, amounting to $11,484.87, and in favor of the reconvenor against the city for the full value of the water supplied, $40,281.87. On appeal, the supreme court, entertaining no doubt as to the unconstitutionality of the exemption, affirmed so much of the judgment of the district court as condemned the company to pay the tax, but reduced the amount allowed the company in reconvention to the exact amount of the tax, it being the opinion of that high tribunal that the exemption from taxation was

not the sole consideration for a free water supply; that addi-
247 tional consideration therefor was to be found in all the valuable privileges conferred upon the company; that there had been only a partial failure of consideration; that to the extent only of such partial failure was the company entitled to relief, and that the exact extent was the amount of the city's claim for taxes. City *vs.* Water Works Company, 36 Ann. 432. I quote from the opinion of the court:

"The correctness of the judgment for the tax does not admit of question. * * *

"To the extent that this subjection to taxation destroys or impairs the consideration upon which rests the contract of defendant to supply free water to the city, defendant is undoubtedly entitled to relief, but to that extent only.

"The position of defendant, impliedly, though not expressly approved by the judge *a quo*, is that the exemption from taxation was the sole consideration of the defendant's obligation to furnish the city with free water, and that when the city elected to claim its taxes it released the defendant from its entire obligation to furnish water free, and became bound to pay for all the water used, even though exceeding, as it does, three-fold the taxes.

"Such is not our view.

"While the free water supply is declared by the act to be the consideration, and doubtless the sole consideration, of the exemption from taxes, the act does not declare, nor do we think it means, that the exemption is the sole consideration of the obligation to supply the water to the city. On the contrary, we consider that the latter is a principal and fundamental provision of the contract, the consideration of which is found not only in the exemption, but in all the valuable privileges conferred by the act. * * *

"The extent to which the consideration has failed is exactly the amount of the city's claim for taxes. If the city shall be condemned to pay defendant for that amount of water, exact justice will be done and defendant can claim no more."

This decision was rendered by a unanimous court, composed of Chief Justice Bermudez and Justices Poche, Todd, Fenner and Manning, Justice Fenner being the organ of the court.

Upon an application for rehearing, the court was divided. Justice Manning, speaking for himself, Chief Justice Bermudez and
248 Justice Fenner, adhered to the opinion originally rendered, whilst Justice Poche, with whom concurred Justice Todd, dissented as to the extent of the relief to be granted to the company in reconvention, their view being that the judgment of the district court was correct, and that reconvenor was entitled to recover the full value of the water supplied to the city.

The following excerpts from the conflicting opinions of Justices Manning and Poche on the rehearing show the principal point of disagreement between the members of the court:

"The argument of defendant resolves itself into a single proposition, *i. e.*, that the 11th section of the act distinctly and in terms

declares the water supply to be the consideration of the exemption from taxation, which declaration the court can neither enlarge, restrict nor otherwise alter, and the inevitable consequence is that the exemption having become inoperative, there can no longer be a free water supply of any quantity whatever. A review of the statute in all its parts and of our construction of it impresses us with a settled conviction that the exemption was not the sole consideration, but the privileges conferred as well."—Manning, J.

"There is, and there can be, but one opinion as to the nullity of the exemption of taxation. * * *

"But the very reasoning which leads to that conclusion should, in my opinion, carry with it a declaration of the complete nullity of the contract, of which the tax exemption was one of the considerations, unless it can be made to appear that the act provides for or contemplates other and distinct considerations for the stipulated free supply of water to the city by the defendant company.

"The (11th) section must have been intended to, and it does beyond a doubt, create a complete and independent contract between the city and the company. The contract, as thus shaped and created, has reference to no other portion of the act, which is complete as an act without the contracts contained in the section—as complete as the contract itself stands without any reference to any or to all of the other provisions of the act.

"Hence follows, in my opinion, the irresistible conclusion, that the consideration furnished by one of the contracting parties having utterly failed, the entire contract must fall."—Poche, J., dissenting.

Immediately following this opinion, rendered in April,
249 1884, for the apparent purpose of obviating its effect in a measure, as well as in answer to the daily increasing clamor for a clear water supply, came the enactment by the legislature, on April 7, 1884, of act No. 56, already referred to, in these words:

"An act to provide for the supply of water to the city of New Orleans by the New Orleans Water Works Company, in cases of the municipal taxation of said company, to authorize provision to be made for the payment of water supplied and to be supplied; to provide for obtaining a supply of clear or filtered water by the New Orleans Water Works Company, and to enable the city of New Orleans to contract for the same; to regulate the payment of taxes imposed on said company contrary to the exemption given in its charter, and to put into effect section 11 of act No. 33 of acts of 1877, E. S., in instances of refusing or contrary to the exemption therein.

"Whereas, due notice and advertisement has been given and made of the intention to apply for this act pursuant to article 48 of the constitution of this State; and,

"Whereas, the New Orleans Water Works Company is being subjected to municipal taxation, notwithstanding the exemption from

taxation granted by its charter, in consideration of water to be supplied to the city of New Orleans; and,

"Whereas, it is possible and desirable to furnish the inhabitants of New Orleans with clear or filtered water from the Mississippi river; therefore,

"SECTION 1. Be it enacted by the General Assembly of the State of Louisiana, That in all instances of the taxation of the franchises of property of the New Orleans Water Works Company for any year or years, by or for the city of New Orleans, or for municipal purposes, whether such taxation be for past or future years, and the said company be in any manner obliged to pay, notwithstanding the exemption granted in section 11 of act No. 33 of acts of 1877, E. S., then in all such instances the said city of New Orleans is hereby empowered and required to pay the said company the value of all the water the said company has supplied or shall supply during any year or years for which said taxes have been or shall be levied, to or for the use and purposes of the city of New Orleans, its public buildings, markets or for streets, gutters, extinguishment of fires or other public purposes.

"SEC. 2. Be it further enacted, etc., That in all instances of
250 such taxation, contrary to said exemption, or any future year or years, the city of New Orleans shall provide in its budget, or shall set apart and appropriate a sum sufficient to pay for the said water supply for the said year or years, and unless this be observed and done, the said company shall not be compelled to deliver water for the uses and purposes aforesaid.

"SEC. 3. Be it further enacted, etc., That any taxes already imposed for any year, contrary to said exemptions, shall not be exacted, nor any penalty or interest accrued be demanded thereon, or any begin to run until said city shall have provided for the payment of the water supplied in said year, or provision made therefor by remedy at law or equity.

"SEC. 4. Be it further enacted, etc., That to secure to the inhabitants of New Orleans and to the use of the city a supply of filtered or clear water, the city of New Orleans be and is hereby empowered to contract with the said company and determine upon terms and conditions, and fix a price for obtaining from said company such supply of clear or filtered water.

"SEC. 5. Be it further enacted, etc., That nothing in this act shall be construed as in any manner abridging or otherwise affecting any of the rights, franchises and privileges heretofore granted to said company; but all such rights, franchises and privileges shall continue and belong to said company.

"SEC. 6. Be it further enacted, etc., That all laws or parts of laws inconsistent herewith be and are hereby repealed, and this act shall have effect from and after its promulgation."

Acting under the enabling authority of this act the city adopted ordinance No. 909, council series, which was made the basis of and was incorporated in a notarial contract entered into with the defend-

ant company on October 3, 1884, for a public water supply. The interesting parts of the ordinance and of the contract are here reproduced in full:

"An ordinance to carry out act No. 56 of the acts of 1884, providing for a future water supply from the New Orleans Water Works Company, to and for the city of New Orleans and certain institutions, and regulating the use of water and the payment therefor.

" Whereas, the city of New Orleans has been, and is, and will be, unable to allow the New Orleans Water Works Company the fifty years' exemption from taxation, being the consideration for
251 a free supply of water, contemplated by section 11 of act No. 33 of the acts of 1877; and the courts having decided that the exemption from municipal taxation granted in said act, is not, and shall not, be enjoyed, and, therefore, as is also decided, that the city must pay for the water supplied by said company; and,

" Whereas, it is best to arrange for a fixed annual price for said water supply, rather than leave the city liable to an annual demand, the amount of which cannot be known in advance, and from which the city cannot be relieved, but is specially authorized and required to provide for the payment therefor; and,

" Whereas, the said New Orleans Water Works Company is willing to accept terms, arranging for a sum to be determined in advance of each year, and which amount can be readily and equitably fixed, according to a mode adopted in other cities, by reference to the number of fire-hydrants, fire-plugs or fire-wells, now numbering 1139 in this city; therefore,

" SECTION 1. Be it ordained by the city council of the city of New Orleans, That during the term of the charter of the New Orleans Water Works Company, beginning with the year 1885, the supply of water for which this ordinance provides, shall be furnished by the said company, from the pipes and plugs of said company, now laid or hereafter to be laid, for the following purposes, to wit: For the extinguishment of fires and the cleansing of the gutters; for the use of all existing public buildings, public markets, public squares and places, public schools and the public charitable institutions supported and to be established and supported by the State or city, and now supplied by the said company; it shall be the duty of the said company to keep and maintain a head or pressure of water not less than 50 feet head, between the hours of 7 a. m. and 6 p. m.; and the reservoir supply at night and between the — hours shall be of such abundance as amply to cover the needs of the fire department for extinguishing fires; and said company shall make such provision as may be necessary to reinforce or supplement said reservoir supply in case of need or accident. In consideration for said supply, the city of New Orleans shall pay, during the term of said company's charter, to the said New Orleans Water Works Company $60 per annum for each and every fire-plug, fire-hydrant and fire-well connected with the mains

or pipes of said company, of which said fire-plugs, fire-hydrants and fire-wells there are now 1139, which number shall be the
252 least number of the annual sum to be paid to said company, and for every additional hydrant, fire-plug or fire-well exceeding said number, hereafter attached to said pipes or mains, the city shall pay an additional $60 per annum.

"SEC. 2. Be it further ordained, etc., That the city of New Orleans shall have the power in time of drought to furnish water to such persons as may live outside the lines (of) the pipes of said water works company free from all charges by the same, and shall have further power by ordinance duly passed and notified in writing to said company, before each annual appropriation for said supply, to decrease or increase the number of fire-plugs, fire-hydrants and fire-wells for the ensuing year, all such ordinances to designate the locations for the new attachments or intended cut-offs; provided, however, that the number of said fire-hydrants, fire-plugs and fire-wells be not reduced below 1139, the intent thereof being that the annual price to be paid for said water supply shall never be less than as fixed herein, by reference to the now existing number of said fire-plugs, fire-hydrants and fire-wells; but the city expressly reserves the power to change the location of any and all of said fire plugs, hydrants or wells whenever the council shall deem it necessary, said changes to be at the cost of the company.

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"SEC. 5. Be it further ordained, etc., That the New Orleans Water Works Company shall have the right to inspect and to examine into the use of water to be supplied under this ordinance, and the city of New Orleans and its officers shall see that no water is taken or used except for the purpose aforesaid, and that there shall be no waste nor more water taken and used, than may be actually necessary for the purposes aforesaid; and to this end the city of New Orleans shall adopt all proper measures or ordinances to prevent waste and to prevent any use of water except for the purposes herein designated; and it is hereby made the duty of the officers of said city, and of those of any and all public buildings, and public institutions, and of all persons using water under this ordinance, to prevent waste and to prevent the use of such water except for the actual need for the purposes aforesaid.

* * * * * * * *

"And said Joseph Valsin Guillotte, mayor, and said Albert Baldwin, president, having each read and declared himself fully cognizant of the contents of said ordinance, do severally declare that they do hereby contract, engage and agree, one with the other,
253 according to the terms, provisions, conditions and language of said ordinance, all and singular, of which said terms, conditions, provisions and language shall be, and is hereby made a contract, engagement and agreement between said parties, the city of New Orleans and the New Orleans Water Works Company; to be observed and carried and held and maintained inviolate during

the entire term and existence of the said New Orleans Water Works Company, its assigns or successors, as now fixed in the charter of said company, being a period of fifty years from the incorporation of said company.

"The said Albert Baldwin, as president, aforesaid, engages to furnish and supply water from the pipes of said company in the manner, at the times, and for all purposes and objects as set forth in and pursuant to the provisions and requirements of the said ordinance No. 909, council series, to furnish or supply water to and for the public places, buildings and institutions, as in and by said ordinance required; to allow the city of New Orleans in time of drought, said state or condition of drought to be decided by the board of this company and the city council, to furnish water to such persons as may live outside the lines of the pipes of the said company for the needs of said persons without waste, and by such means of transportation by carts, wagons, barrels or like appliances as said city may provide and furnish, all pursuant to the intent and purpose of sections 2 and 5 of said ordinance; to observe and obey any ordinance duly notified to said company directing the increase of the number of fire-plugs, fire-hydrants and fire-wells or the decrease thereof; provided said decrease be not below 1139 in number, all according to section 3 of said ordinance; and, further, he engages and contracts, as president aforesaid, to do, perform and give and to observe, carry out and fulfill all things required of said company by or in said ordinance."

E. Conery and other citizens and tax-payers of New Orleans, believing that the decision in City *vs.* Water Works Company had settled for all time the charter obligations of the company with regard to a public water supply, brought suit against both the company and the city to have the contract of Oct. 3, 1884, ordinance No. 909 and act 56 of 1884, declared null, void and unconstitutional, on the ground that under the decision aforesaid, which was pleaded as an estoppel by *res adjudicata*, the company could not re-
254 ceive from the city any greater sum for a free supply of water than the amount of the city tax assessed against the company for the year in which the water was furnished; that ordinance No. 909 was *ultra vires;* that act No. 56 was never intended to change the contractual relations said by the supreme court to exist between the company and the city, save for the purpose of furnishing the city with clear or filtered water; and that if said act No. 56 contemplated a contract between the city and the water works company as to the value of the water to be supplied, it was violative of articles 45, 47, 234 and 46 of the constitution, and hence null and void.

The city at first filed sundry exceptions to this suit, but, a change of administration having occurred, there came a change of front on the part of the city, in whose behalf appeared the city attorney and joined the plaintiffs in their demand.

The water works company answered, maintaining the integrity of the contract and the authority of the city to make it independent

of act No. 56, and the constitutionality of the said act, of ordinance No. 909, and of the contract made in pursuance thereof.

From a judgment in favor of the plaintiffs, the water works company appealed to the supreme court. 41 An., 901. That tribunal was then composed of Chief Justice Bermudez and Justices Poche and Fenner, who had taken part in the decision of City *vs.* Water Works Company, and of two new members, Justices McEnery and Watkins, the successors of Justices Manning and Todd. They were divided in their opinions. The majority, speaking through Justice McEnery, with whom concurred Justices Poche and Watkins, held that the judgment in City *vs.* Water Works Company was not intended to regulate the conduct of the parties in the future as to the price of water, but to fix the price for the year 1881, and for that year only; that the effect of the judgment in that case was to destroy and annul section 11 of act No. 33 of 1877, E. S.; that there is no provision in the company's charter requiring it to furnish water to the city at any stipulated or agreed price; that the
255 city had full authority to adopt ordinance No. 909 and to make the contract of Oct. 3, 1884, pursuant thereto, without the enabling act No. 56 of 1884; and that said act is not in conflict with any article of the constitution, as it did not amend the charter of the company or give it any extra compensation. They therefore reversed the judgment appealed from, and rejected plaintiffs' demand.

Justice Poche, whose dissenting views in City *vs.* Water Works Company relative to the water supply had thus been indorsed by the new members of the court, endeavored in a concurring opinion to demonstrate that the previous judgment was lacking in the elements constituting the thing adjudged, it not having been rendered in a suit for the same cause of action, between the same parties suing in the same capacity; and that even if given its full effect there was nothing in it to prevent the parties thereto from renouncing its benefit, from departing from the contract to which it had reference, and from entering into a new contract such as provided for by act No. 56 and ordinance No. 909.

But in a vigorous opinion combating those views of the majority, Justice Fenner, after reciting the issues involved in the former suit, pointed out that the estoppel of *res adjudicata* operates in two ways: "First, if the second suit is based on the same cause of action, is between the same parties, and is for the same object or thing, then the first judgment is a conclusive bar to the whole suit. Second, but where the *res* or thing claimed is different, the cause of action and parties being the same, the first judgment is not a bar to the suit, but, none the less it operates as a conclusive estoppel as to all questions of law and fact which were necessarily involved and determined in the former controversy." Having reviewed the authorities bearing on the second proposition, he concludes:

"They place it beyond dispute, that the decision in the 36th An. case forever concluded and estopped the parties thereto from again agitating the question therein determined in any subsequent

action. In any subsequent suit by the city for the taxes of succeeding years, the water works would have been estopped to
256 set up the exemption of its charter. In any subsequent suit by the water works company for the value of water furnished, it would have been estopped from claiming more than the amount of the taxes levied during the year in which the water was supplied, and the city would have been legally estopped to deny that she owed the value of the amount of such taxes.

"Thus the legal status of the rights and obligations of the parties under the legislative contract embodied in the charter of the water works company was definitely and irrevocably fixed. The city was irrefragably entitled to receive annually the supply of water stipulated in the act, and was bound to pay therefor precisely the amount of taxes levied by it on the property of the company during the same year; and not a cent more could be claimed by the company."

Proceeding, then, to discuss article 56 and ordinance 909 in the light of his understanding of the judgment in the 36th Annual case, he shows in what respect they are unconstitutional, null and void.

To the same import are the views expressed in an equally vigorous, dissenting opinion of the chief justice:

"That judgment (in 36th Annual) settled forever the question of the respective liability of both corporations, the one for the water supplied, the other for the taxes demandable. Its effect, as is that of all judgments, was to close the door, for all time, to those litigants, on the subject of such reciprocal liability, the one to the other.

"The moment that judgment was rendered it became the property of each party, who then acquired the right of using it as an effectual shield for protection against any demand for more than it allowed to each party.

"It was not a judgment intended merely to settle the question of amounts due for 1881, for taxes and water supply, but one designated to establish firmly, for the future, during the term of existence of the company, that, in no case, would it ever claim from the city for water supply any amount in excess of that which the city would have the right to demand for taxes due her.

"The title of ownership which vested to that judgment in the two corporations was one which could not be divested, unless by a mutual legal consent; but, as such consent was a legal impossibility, it follows that the judgment which was thus rendered has
257 never ceased to have its binding force and effect, and that it is fatally destructive of both the act of 1884 and of the contract under it."

This somewhat extended review of the litigation in respect to section 11 of the act of 1877, E. S., has been indulged in to show that the State is not without some justification in regarding it as still a part of defendant's charter. Twice was the highest court in the State called upon to interpret it. In the first instance it was held

operative to a defined extent; in the second instance, the conditions remaining unchanged, it was held to have been stricken with nullity and expunged from the statute. In each instance the court's judgment was by a bare majority.

Were this an action touching the contractual relations of private individuals, I would be strongly inclined to view the 41 An. case as overruling the 36 An. case; and, being unable to reconcile the only two authorities upon the point in controversy, I would follow the one most consonant with my legal judgment. I would then be impelled to hold with the minority judges in the Conery case, for the reasons assigned by them, that the 36 An. case forever defined the charter obligations of defendant with regard to the water to be supplied to the city for public purposes; and, so far from annulling section 11 of act No. 33 of 1877, E. S., decreed that, under said section, the company was compelled to furnish such a supply, and was forever precluded from demanding therefor from the city a greater compensation than the amount of taxes yearly due to it by the company.

But the cause before me is not between private individuals; nor does it arise out of the non-execution of a private covenant. It involves public interests; it aims at the destruction of the life of a corporation chartered by the State for the discharge of a public duty; it calls for the determination by the court of the contractual obligations imposed by legislative enactment upon a corporation intrusted with such duty, and for sentence of death upon that corporation for failure to fulfill those obligations. That corporation, whose lease of life, be it remembered, was to run fifty years
258 in the enjoyment of a valuable exclusive privilege, upon the faith of which honest capital has been invested, says to the court: "Eleven years ago, in 1889, the legislative enactment fixing my obligations received judicial interpretation. It was then decided that one of the obligations originally written in that legislative enactment, relative to a water supply to the city, had, by the act of the beneficiary, been annulled and destroyed. True, there was a prior decree of court, in another litigation, maintaining the binding force of that obligation to a limited extent, but the court that rendered that decree, and that had the right of interpreting it, held subsequently that its effect was to read out of the statute the section by which the obligation was created; and since the rendition of the latter decree, both the city and the company have acted upon the assumption that no such obligation existed, and that there was no obligation resting upon the defendant with regard to a water supply for public purposes other than such as were embodied in the private contract of Oct. 3, 1884." Can a judge of inferior jurisdiction, however strong may be his convictions, reply to the corporation advancing such arguments: "The supreme court has erroneously interpreted its own decree; it should have held that its effect was to destroy only partly the binding force of section 11; the company still remains obligated to furnish to the city water for public purposes, and is entitled to receive in payment therefor only such an

amount as it may be called upon to pay yearly for taxes; the contract of Oct. 3, 1884, cannot be viewed as having in any manner done away with that obligation or as having created a new covenant between the parties; the company has not abided by its original contract; its corporate life is extinct"? Assurdely not.

If error there was in the Conery case, that error, be it said with all due respect to the learned judges who composed the majority of the court, appears to me to lie in a misapplication of the doctrine of estoppel by *res adjudicata*, and I cannot well perceive how a judgment predicated upon the existence in part of a certain obligation could be interpreted as meaning that the obligation did not
259 exist at all. But, it being the province of the highest court to construe its own judgments, as well as to declare what effect shall be given to them, the error can be revised only by itself.

The language in the main opinion in the 41 An. case is emphatic:

"The effect of the judgment in that case, 36 An., was to destroy and annul section 11 of act 33 of 1877, E. S. One may look in vain for another paragraph or section of the act for any obligation, express or implied, which compels the water works company to furnish free water to the city for any franchise or privilege granted by the State.

"The water works company was organized at the instance and invitation of the city, and by authority of law. The city cannot impose any obligation upon it contrary to the original grant, without its consent. To impose upon it an onerous duty, not contained in its charter, would be a violation of the State and Federal constitutions. There is no provision in its charter requiring it to furnish water the city at any stipulated or regulated price.

"There was no obligation on the company to supply the city with water at any price or in any quantity.

"The effect of the judgment in the case of New Orleans *vs.* Water Works Company, 36 An. 432, was to annul and eliminate said section from the charter. It was the section which provided for a supply of water for the city."

With the elimination of section 11, I can find no warrant in the charter for the complaint of the State that the water supply of the company is inadequate for the extinguishment of fires, for washing yards, alleys and streets, and for public purposes generally. In the light of the 41 An. case, I agree with the defendant in its contention that its obligations as to a water supply to the city for the purposes cited, are to be sought outside of the charter, in the contract of Oct. 3, 1884. With that contract originating in no charter obligation and of a purely private character, the State has no concern. In an action for forfeiture, the covenant alleged to have been broken must be one running to the State and embraced in the charter—into private contracts, made by the corporation after its organization, in the course of its business, and to which the State is a stranger, the court cannot inquire.

260 It having been held, in the 41 An. case, that the contract of Oct. 3, 1884, could have been made by the city of New

Orleans under its charter without the enabling authority of act. No. 56, and that said contract was independent of, and did not conflict with, any charter obligation imposed upon the water works company, its inexecution affords the State no ground of complaint. In cases of private contracts only those privy thereto have a standing in court to demand their rescission or enforcement. If the contract of Oct. 3, 1884, has not been carried out by the company, none other than the city can set up the violation and obtain the rescission of the contract. The State is without right of action in the matter.

There is, consequently, no merit in the State's contention that the water supplied to the city for public purposes has proved inadequate. What of the water supply to the inhabitants of the city for private use? That is provided for in section 13 of the act of 1877, E. S., as amended by sections 4 and 5 of act 43 of 1878. The parties differ as to the construction of these provisions. They have already been given in full, and need not be reproduced. I read them as fastening upon the defendant the duty of beginning, within six months after its organization, the renovation of the pipes and works by means of which the inhabitants of New Orleans were then supplied with water, and of adding to the works and pipes, yearly thereafter, so that within five years the people of the city of New Orleans, as it existed in 1878, exclusive of the fifth district, would be given an adequate supply of water from the Mississippi river. The supply was to be considered full and adequate if a pressure sufficient to furnish water at the height of not less than fifteen feet from the ground throughout the city, as it stood in 1878, was constantly maintained. Failure to renovate the old, and to complete the new works, within five years, as above directed, was to entail forfeiture by the company of all its exclusive privileges; the city being given the right to contract with any one else for a supply of water and to expropriate the property of the company. The company
261 was required, further, after the completion of the new works, from time to time, according to the wants of the growing population, and whenever the estimated revenue on the cost of the extension would equal 10 per cent., to extend its works throughout the entire limits of the then existing city and its suburbs and any future extension thereof.

I cannot agree with the company's construction of that part of its charter; that it was obligated thereby only to repair and renew the existing works and pipes so as to furnish water where the works and pipes then stood, and in no other part of the city, at a height of not less than 15 feet from the ground, and that it was under no obligation to extend those works and pipes beyond the territory then occupied by them, unless the estimated revenue to be derived from the extended water supply equaled 10 per cent. of the cost of extension. Taken in a literal sense, the words of the amendment (section 5 of the act of 1878) relative to the adequacy of the water supply, that it should be at a given height "wherever the pipes of the water works now exist," do not indicate to my mind the legislative intent that there should be no addition to, but merely a reparation or im-

provement of the existing works. It must not be forgotten that at the time of the organization of the water works company the water works were in a much dilapidated condition, and did not extend throughout the limits of the city. To meet the public demand for a better water supply it was necessary not only to repair and renew the existing works, but to make such additions thereto as would embrace the then unsupplied districts. This is precisely what the legislature, in section 13, directed the company to do within five years after its organization. The works were to be both renewed and extended, so that, in that space of time, there should be no part of the city, as it stood in 1878, remaining unsupplied with water. The legislature meant that the entire population, those reached by the pipes, as well as those living in districts to which the pipes did not extend, should have an adequate water supply. It was only after that consummation had been brought about that the
262 company was to be under no obligation to extend its pipes, unless the revenue to be derived from the extension was to equal 10 per cent. of the cost thereof. Any other interpretation of section 13 would make the act fall short of its object to furnish the inhabitants of New Orleans with an adequate water supply.

The amendment brought to section 13 by section 5 of act 43 of 1878 contains no suggestion of the legislative intent to restrict the company's obligation to the renovation of the existing works and pipes. It refers entirely to the adequacy of the water supply. Its plain purport is to make clear what was left to speculation in section 13, and to define what was understood by a full and adequate water supply. That was explained to mean a supply at a height of 15 feet from the ground "where the pipes of the water works now exist." So says the statute. But the legislature did not intend thereby to prescribe a test for the adequacy of the water supply, solely in the densely populated districts of the city, where the pipes of the water works company were then laid, and to leave open to discussion what would be a proper test in the other more or less sparsely settled districts through which those pipes were to be extended. The legislature intended to, and did, prescribe an abiding test, which was to apply throughout the entire city, both in the districts actually supplied and in those to be thereafter supplied, according to the growth of the population. Whether there was a want of foresight in our lawmakers, in not acticipating the change in the construction of buildings, which was, in a few years, to bring about the rearing of those structures commonly called "sky-scrapers," is not matter for argument. The company can be held to no other obligation than that which is written in its charter.

To establish, therefore, that the company has failed in its obligation to give the inhabitants of New Orleans a full and adequate supply of water for private uses, it was incumbent upon the State, carrying the burden of proof, to show, first, that the company did not, within five years after its organization, so extend its pipes as to reach the entire population of the city as it stood in 1878;
263 second, that the company did not, after the expiration of said five years, continue to gradually extend its pipes so as to

satisfy the needs of the growing population; third, that the revenue to be derived from such gradual extensions would have equaled 10 per cent. of the cost thereof, and, fourth, that water cannot be had throughout the city at a height of 15 feet from the ground where the pipes are laid.

The evidence of record is not to that effect; on the contrary, it shows effort by the company, from the outset, not only to repair and renew the existing works and pipes, but to gradually extend them so as to cover the settled area of the city. As against 60 miles of pipes supplying the city in 1878, there are now 121.5 miles of mains and pipes, or, say, twice the mileage existing at the time of the transfer to the company. How much of the extension was made during the prescribed five years does not appear, but that some additional pipes were laid during that time is beyond question. Whether those additional pipes did not reach all the inhabited streets of the city as it was in 1878, the court cannot say, for the record contains no data by which can be determined the mileage of pipes and the mileage of populated streets at that time. It is true that the mileage of inhabited streets at present is 580 miles, as against 121 miles of water pipes, so that there are now 459 miles of inhabited streets through which no pipes are run, and which are without water; but how many of those 459 miles of unsupplied habitations have become settled since 1878 does not appear; nor has the State attempted to prove the existence of the prerequisite to the extension of the pipes through the districts populated since 1878—namely, that the revenue from the water supply therein would equal 10 per cent. of the cost of the extension. Without such essential prerequisite the company was in no way bound to extend its pipes.

Moreover, the original work of extension was to be completed within five years from the organization of the company; that is to say, not later than the year 1883. The legislative enactment of
1884, act 56, which recognized the company as a going con-
264 cern, and purported to confer upon it benefits "without in
any manner abridging or otherwise affecting any of the other rights, franchises and privileges heretofore granted to said company" (section 5), must be viewed, irrespective of the binding effect of said enactment, either as an admission that the company had up to that time complied with all its obligation to the State, or, at least, as a condonation by the State of all past derelictions on the part of the company in the performance of its duties to the State. In either aspect, it is a conclusive estoppel against any complaint by the State as to the non-execution of defendant's charter covenants prior to that time. Therefore, had the State proved the dereliction complained of, despite the company's objection, it could not find fault with the company therefor.

The State has not been more successful in proving the failure on the company's part to maintain thoughout the city a pressure equal to the weight of a column of water of not less than 15 feet from the ground. The requisite pressure is shown to have been maintained

to supply the normal demand. Whatever deficiency there was at times in the water supplied to individual consumers occurred during periods of drouth, when the city caused hydrants to be opened and the street gutters to be flooded, so that the people living both inside and outside of the water limits might be supplied from the gutters. To meet the waste of water at such times, the company was forced to furnish daily ten or twelve millions of gallons above what was required for ordinary consumption. For the shortcomings of the company on such occasions, the State cannot be heard to complain.

From all of which the conclusion forces itself upon my mind that the State has not substantiated the averments of its petition, numbered 1, 2, 3 and 4, to the effect that the water supply was inadequate in quality and quantity.

The next complaint of the State is that the company has habitually exacted and collected greater rates than those prescribed by its charter. The averment on this point is, that the company was
prohibited from charging any more than the rates paid to
265 the city by water consumers in 1877, the legislature meaning thereby the rates legally fixed by the city council in 1870, which were the only rates legally in force and legally exacted by the city in 1877; and that the company has illegally exacted and collected higher rates than those. The averment, therefore, is not that the company has exceeded the rates fixed by law, but that the company has disregarded a certain tariff, which is claimed to have been the only legal tariff of rates existing at the time, and the only tariff by which the company was to be governed in charging for water supplied to consumers; in other words, the company is impleaded for having charged water consumers rates in excess of a designated legal tariff.

It is a complete defense for the company to show that such tariff never had legal existence, and hence was not binding upon the city in 1877, or at any other time. The State cannot thereafter recede from its position and attempt to hold the company for violating some other tariff than the one pleaded. The State as a pleader is entitled to no greater latitude than an ordinary plaintiff or defendant. The rule which requires that the defendant should be put on his defence by a specific averment and which holds the parties strictly to the pleadings, finds no readier application than in a suit in which a corporation is arraigned for violating its obligations to the sovereign, and is sought to be deprived of corporate life. The charges of breach of duty should be formulated with the precision and certainty of an indictment, and the corporation should be called to defend such charges as are specifically pleaded, and none other.

There is no question that the company was empowered by section 15 of act No. 33 to fix the water rates. The exercise of that power was subject to but two restrictions: First, the rates could not exceed those paid to the city by water consumers in 1877; second, the rates were to be so gra led that the net profits of the company would not exceed 10 per cent. per annum. To see that these restrictions were

respected, the city council was given the right of inspecting the
266 books of the company, through a committee duly appointed, and upon report by such committee that the profits exceeded 10 per cent. per annum, the council was authorized to demand of the company the reduction of the price of water to that limit, and to enforce by *mandamus* compliance with this demand.

Under the strict view that I have taken of the pleadings, it becomes unnecessary to consider what were the water rates paid to the city in 1877, and whether the company has been deriving from the collection of water charges a profit exceeding 10 per cent. per annum. The State having averred that the rates not to be exceeded by the company were the rates legally exacted by the city in 1877, and that the only rates that could then be legally exacted were those that had been adopted by the council in 1870, the matter narrows itself to the question whether there were any ordinances on the subject of water rates legally passed by the council in that year.

The only ordinance relative to water rates promulgated by the city prior to 1877 bears the No. 1510, N. S., and is in these words: "No. 1510, new series. Resolved, that the water rates as at present established remain in force to January, 1870. G. Pandelly, president board of assistant aldermen; Louis A. Wiltz, president board of aldermen.

"Approved July 28, 1869—John R. Conway, mayor."

That ordinance had reference to the year 1869, and meant to legalize the existing rates and to preserve them in force until the end of that year only.

Another ordinance regulating the water rates for the year 1870, and for no other term, appears to have been finally passed on Dec. 18, 1869, by the council, which was then composed of two legislative bodies—a board of aldermen and a board of assistant aldermen (charter of 1852, as amended by act of 1856). That ordinance failed of approval by the mayor, who returned it with his veto to the board of assistant aldermen, in whose body the ordinance had originated, and whom he had convened in extra session on Dec. 30, 1869. The veto message was not acted upon until the
267 board's regular session, on Jan. 11, 1870, when the ordinance was passed by the requisite majority over the mayor's veto. It was not until March 8, 1870, that the board of aldermen acted on the mayor's veto, which they refused to sustain. The ordinance was then finally passed over the mayor's veto. Eight days after its final passage the charter of 1852 (act No. 71) was superseded by that of 1870, E. S. (act No. 76); the boards of aldermen and assistant aldermen ceased to exist, and government of the city by administrators came into force.

In those eight days there was no official promulgation of the ordinance in question; nor is there any promulgation thereof to be found subsequent to that time. Without promulgation the ordinance could not acquire the force of law. Under the charter of 1852 (section 27) a vetoed ordinance, in order to become opera-

tive, had not only to be passed over the mayor's objections by a vote of two-thirds of the members elected to each board, but had to be promulgated in the official journal. Section 10 of the same charter made it the mayor's duty to publish in such journal all the *ordinances and resolutions passed by the common council.* Section 11 of act No. 8 of 1868 also required the publication by the State printer in his official journal of "all municipal advertisements, of every description whatsoever, whether the same be authorized by a law of the State, an ordinance of the common council, or by any official or department of the city government."

The conditions attached to the power to pass an act over executive veto must be strictly observed, or the proposed legislation remains ineffective. Promulgation, when required, is of the essence of a law. There having been no promulgation of the ordinance of December, 1869 (March 8, 1870), which purported to prescribe the tariff of water rates for the year 1870, it never became a law, and never bound any one. As that ordinance was the only standard of rates set up by the State, comparison becomes impossible, and it follows that the State's charge of illegal exaction has not been sustained by proof.

In considering that charge I have not been impressed with the proposition of defendant, that the State is without right to
268 complain of overcharges in the water rates until action by the city council, under the power of visitation given it by section 15. The State has no control over the city council, and cannot set it in motion. In granting to it authority to act in the manner indicated the State has not surrendered its right to see to the enforcement of the obligations imposed by it upon the company. That right remains unimpaired notwithstanding the delegation of power to the city conferred by section 13. Suppose the city council should be unmindful of its duty and heedless of its prerogative, must then the State remain supinely by and allow the inhabitants of this city to be overcharged? If defendant's proposition be correct, even those inhabitants would be powerless to appeal to the court for redress from extortionate charges, that right being lodged in the city council alone; and yet the reports are not barren of cases where relief from the payment of illegal water rates was afforded to individual consumers.

Next in order, it is contended by the State that "From the very nature of our American government, it is an implied duty of every public institution that a corporation, enjoying a monopoly and exclusive privilege, charged with the duty of performing public services for the benefit of the whole people, is bound to treat everybody alike, and to do and perform the public service for the same price to the rich and the poor; and that it is unjust, unreasonable and illegal to charge the poor man with a small establishment more in proportion to the water consumed than the rich and the powerful; and that gross partiality and favoritism in the performance of the public service is such an abuse of the franchise as to justify a forfeiture of the charter."

The allegation to which this argument applies—that there was discrimination in the water rates, to the detriment of small consumers—has been established to my satisfaction. The evidence on the subject need not be recapitulated. It shows different charges to consumers for what appears to be the same service, and proportionately higher rates for small than for large consumption, particularly in instances where the extent of the supply was ascer-
269 tained by meter. It would seem that after pipes have been laid in the ground and the proper pressure put thereon, the cost of delivery per thousand gallons ought to be the same, whether the consumption be large or small; yet it is a rule of almost universal prevalence that the greater the supply the less the cost per given measure of consumption. By fixing the price per thousand gallons at 15 cents for large consumers (without reference to any tariff, be it remarked), the Supreme Court itself, in the case of Levy vs. Water Works Company, impliedly sanctions discrimination between them and the small consumers. 38 Ann., 25.

Moreover, there is nothing in defendant's charter which prohibits it from donating water to whomsoever it pleases. The charter fixes a maximum price, but makes no mention of a minimum price; nor does it say that water shall not be supplied at less than a given figure. The company having the power to donate, it has the power to rebate, and it matters not whether its beneficiaries be poor or wealthy.

Had the charter contained in express terms the condition that the same price for water should be exacted from all persons with whom the company dealt, such condition would stand as a rule of deportment of the corporation toward its patrons, and should be obeyed under penalty of forfeiture. But the charter formulates no such rule of conduct. It says to the company: "In your charges you shall not go beyond a certain limit." It does not pretend to control the company in the exercise of its power to charge up to that limit. How can the defendant be accused of non-performance of charter covenants in that respect?

The State points to no statute outside of the charter prescribing non-discrimination in rates, and I know of none. Applying to the defendant the non-statutory rule, borrowed from the law merchant, that a common carrier by land, in exacting hire for transportation, must treat alike all persons demanding such transportation, it does not follow that the State has any standing in court to complain of the non-observance of such a rule. The right of action ac-
270 crues only to the individual who has been refused the same service for the same price as a favored customer. The State and the people in general are without interest to interfere in a matter purely personal to the individual concerned, and to predicate thereon a demand for the forfeiture of the charter of the offending corporation.

The sixth ground of complaint relied on by the State is, therefore, not better founded than those already considered.

The seventh grievance of the State is that the company has de-

cared dividends in disregard of its obligation, under section 10 of the act 33, as amended by section 2 of the act of 1878, not to do so except out of the semi-annual or annual receipts, after payment of the interest on its bonded debt, and after payment of all expenses of operation as well as the cost of the gradual extension of its mains and pipes so as to furnish an adequate supply of water to all the inhabitants of New Orleans.

That grievance arises mainly from the reiterated erroneous construction placed by the State upon another section of act No. 33, namely, section 13. That error has already been exposed, and consists in assuming that there was an unconditional obligation resting upon the company to gradually extend its mains and pipes from year to year so as to meet the wants of the growing city and embrace the whole of its populated area; whereas, the gradual extensions were to be made unconditionally only as regarded the city's populated districts in the year 1878, while all future extensions throughout the city and its suburbs were to be conditioned upon the revenue being equal to 10 per cent. of the cost thereof. It is to these gradual extensions that section 10, as amended, refers. That the company has not been at fault with regard thereto has already been shown.

The further construction sought to be placed by the State upon said section 10, and the amendment thereto, that no dividend could be declared until every cent of the millions of dollars needed for extending the mains and pipes so as to supply 580 miles of inhabited streets had been earned out of the net profits, appears to me to be incorrect. It could not have been the legislative intent that
271 the shares of stock should remain unproductive, and that all the earnings of the company should go to what might prove unremunerative extensions and to the payment of the principal borrowed for hastening such extensions.

Besides, the evidence of record negatives the averment of the petition that dividends were declared and paid from other sources than the net profits. I have been unable to follow the learned counsel of the State in their "compilation from the annual reports of the company for the twenty years ending April, 1898," to show an excess of expenditures over earnings. I find a safer guide in the testimony of the president of the company, to the effect that the company's receipts from its organization in 1878 to the year 1898 were $3,739,286.46; that the disbursements were $2,141,649.11, and that the difference was $1,597,637.35. It appears, also, from Mr. Craig's statement, that the total of dividends declared during that time was $1,485,000; so that the company earned $112,637.35 more than it distributed in dividends. This is corroborated by the profit and loss account of the company.

Another statement furnished by Mr. Craig is that the company earned a surplus every year, after paying dividends, since 1886, save during four years, when small deficits were made good from the surplus of previous years, there being a surplus for the thirteen years from 1886 to 1898, inclusive, of $115,636.15.

Still another statement from Mr. Craig shows that, while the indebtedness of the company for bonds and bills payable amounted up to April, 1898, to $755,000, the improvement and extension account amounted to $859,608.17, and hence over $104,000 must have been spent in improvements and extensions out of current revenues.

Assuming, however, that the board of directors did declare dividends when none should have been declared, the most that can be laid at their door is unintentional negligence, arising from a mistake in exercising a power with which they were duly invested. That is not enough to justify a sentence of corporate death; there
272 must be a wilful abuse of power or a wilful dereliction in the performance of a duty to the public imposed by the charter in order to warrant a judgment of forfeiture. The State is not in a position to charge anything of the kind. The participation by the public officials whom the State had designated to represent its ward or protege, the city of New Orleans, on the company's board of directors, and whose integrity is not impugned, in the action of that board in declaring dividends, year after year, is a complete refutation of any accusation of wilful abuse of power or of wilful neglect of duty, and effectually closes the lips of the State.

It is next averred by the State that the company has not complied with its contract with the city of New Orleans, dated Oct. 3, 1884, because it has not maintained a head or pressure of 50 feet, from 7 a. m. to 6 p. m., as required by said contract.

The Conery case, which, for reasons given above, I feel bound to respect, sets that averment at naught. If, as it was held therein, the contract referred to is an independent covenant, not reposing on any obligation running from defendant to the State, but entered into by the city solely under the grant of powers contained in its own charter, the State has no more concern with the execution *vel non* of that post-charter contract, to which it is not privy, than with the performance of any agreement of a private character between private individuals.

The ninth ground of complaint averred is that the management has been negligent and needlessly expensive, and detrimental to the public zeal. That averment has not been supported by proof, nor has it been insisted on in the briefs or in the oral argument of the State's learned counsel.

Here another estoppel arises out of the fact that that management was participated in by the public officials representing the city, and through it the State, upon the board of directors. They not only authorized all expenditures and concurred in the declaration of dividends, but as city officials also aided the city in disbursing, as a legitimate part of its revenues, the dividends received by it.

273 It is next averred by the State, under the number 10, that by accepting the benefit of act 56 of 1884, and by entering into the contract of Oct. 3, 1884, and by receiving since then from the city money for water supplied for public purposes, the company has renounced and abandoned its monopoly and exclusive privileges,

which have become extinct under articles 234, 248 and 258 of the constitution of 1879.

By that averment the State evidently means to desist from any attack upon the constitutionality of act No. 56, and, recognizing it as a valid and binding statute conferring a benefit upon the company, to hold that the latter, by the acceptance of such benefit, has placed itself within the purview of article 234 of the constitution of 1879, which prohibits the legislature from passing any general or special law for the benefit of any existing corporation "except upon the condition that such corporation shall thereafter hold its charter subject to this constitution," which, amongst other provisions, abolished all monopolies and exclusive privileges.

But the Conery case again interposes. Until that case has been overruled I am constrained to hold that act 56 did not confer any benefit upon the water works company; that it added nothing to the privileges granted to it, and that it lightened none of the burdens imposed by its charter; that section 11, having been read out of said charter, there was nothing to compel the company to furnish water free to the city, and nothing to prevent it from charging the city for water furnished to it; and that the city did not require the enabling authority of act No. 56 to make the contract for water supply of Oct. 3, 1884, as it already had under its charter the power to make such contract.

The next matter of complaint by the State is that the company, in 1878 or 1879, illegally sold or issued its own stock at $33 per share, when it was prohibited by its charter from issuing stock at less than the par value of $100 per share.

No reference to that averment has been made by the learned counsel for the State, either in the brief or in oral argument, and it seems to have been abandoned. The facts upon the sub-
274 ject appear to be that at the time of the transfer of the water plant to the defendant company the city had collected in advance, from April 10 to Sept. 30, 1878, water rates to the amount of $25,000, for which it had become indebted to the company. Finding itself unable to meet that indebtedness in cash, the city proposed to the company to surrender to it in payment 250 shares of its capital stock, the city, as it will be remembered, being at the time not only a stockholder, but having had the distribution of every share of the $2,000,000 of capital stock originally issued by the company. The company accepted the city's offer. The transaction is evidenced by the following ordinance:

"No. 4662, administration series.

"Resolved, That the sum of $25,000, in full settlement, be and is hereby appropriated to the New Orleans Water Works Company for proportion of water rents collected by the city of New Orleans in advance, from April 10 to Sept. 30, 1878, and that the administrator of public accounts warrant for the same, receivable in payment of water-works stock owned by the city.

"Adopted by the council of the city of New Orleans, Aug. 27, 1878.

"Yeas—Brown, Cavanac, Denis, Diamond, McCaffrey.

"ED. PILLSBURY, *Mayor*."

"No. 4678, administration series.

"Resolved, That the following bid for stock owned by the city in the New Orleans Water Works Company, payable in the floating debt, in conformity with ordinance No. 4459, administration series, be and is hereby accepted, and the administrator of finance is authorized to issue certificates accordingly on the production of the order and warrant of the administrator of public accounts, that the requisite amount of floating debt has been surrendered and duly canceled.

"A. Bonneval, secretary, New Orleans Water Works Company, $25,000 for 250 shares.

"Adopted by the council of the city of New Orleans, Sept. 17, 1878.

"Yeas—Brown, Cavanac, Diamond, McCaffrey, Rengstorff.

"ED. PILLSBURY, *Mayor*."

275 That stock, after being held for some time by the company in its treasury, was sold by it at market prices, averaging $33 per share. The total price of sale was $8250 realized in settlement of a debt of $25,000, making a loss for the company of $16,750. Under the circumstances the company had the right to treat the stock as an asset and dispose of it at market price. That was not issuing stock below par, within the prohibition of the charter.

Finally, it is charged by the State that the company, in violation of section 9 of its charter, which forbids it from issuing bonds or mortgages save with the consent of the city for the purpose of enlarging its works and increasing its supply of pure water, has issued demand notes amounting to $110,000, for the purpose either of paying unearned dividends or of paying for its inadequate extensions. This is averred to be an evasion by indirection of the prohibition contained in said section, the State interpreting it to mean that the power to borrow granted thereby to the company is conditioned upon the consent of the city, and is limited to the issuance of bonds secured by mortgage, with said city's consent.

I do not agree with the State in its interpretation. I read section 9 as containing an unconditional grant to the company of power to borrow money for the purpose of improving and enlarging its works and increasing the supply of pure water. As a means to accomplish this purpose, but not as the sole means, the company is further granted the power to issue its bonds to an amount not exceeding $2,000,000, and to secure their payment by mortgage of all the property and franchises of the corporation, provided that no bonds should be issued and no mortgages given, without the consent of the city council. The proviso requiring the city's consent

has no reference to the power to borrow otherwise than by the issuance of bonds to be secured by mortgage; it is to loans of that character alone that the city's consent is needed. The legislature cannot have intended to restrict the company's right to borrow to the one method of issuing bonds secured by mortgage with the city's consent. It is not reasonable to so construe section 9 as to im-
276 pose upon the company the duty of first securing the city's consent, however urgent might be the necessity for borrowing, and however transient might be the character of the loan, as in the case of the sudden explosion of a boiler or the destruction or deterioration of the water works by a storm or other commotion.

It is in evidence that the company, with the city's consent, has twice contracted loans upon its bonds, secured by mortgage; the first loan was effected April 1, 1879, and was for $500,000; the second was for $250,000, and was effected on Dec. 22, 1892. At the time of the execution of this second loan there was on hand in the company's treasury $105,000 of bonds of its first-mortgage issue, which were destroyed and canceled in order to facilitate the negotiation of the newly issued bonds. In addition to these two loans the company, from time to time, to meet pressing needs, has issued its demand notes to the amount of $110,000 on its own responsibility, and without the consent of the city previously obtained. These notes, some of which are of long standing, were issued upon the advice of financiers that they could be more readily negotiated than long-time bonds. The company had the right to issue them.

Thus falls the twelfth and last prop upon which rested the State's demand.

Having been brought to the conclusion that the State's demand on the merits should be dismissed, I do not find it useful to advert to the two matters of exception embodied in defendant's answer; first, that the bondholders are necessary parties; and, second, that, as in the case of an ordinary demand for the rescission of a sale, the State cannot obtain the forfeiture of defendant's charter until it has restored to the company the price which it has paid to the city, at the State's dictation, for the water works, and the cost of improvements and extensions. I have not been impressed with that part of the defense.

Throughout my close study of this important litigation I have struggled against an abiding conviction that section 11, which
277 provides for a supply of water to the city for public purposes, should not have been read out of defendant's charter and is still part thereof; that, according to the supreme court's interpretation of that section in City *vs.* New Orleans Water Works Company (36 An.) the company could not charge for such water supply a higher price than the amount due by it yearly for city taxes; that the contract of Oct. 3, 1884, as authorized by act No. 56 and ordinance No. 909, which enabled the company to charge and receive a much higher price, was in derogation of section 11 and illegal, and that the unlawful exaction of said higher price by the company since the year 1884—a period of over sixteen years—

constituted such a breach of its covenant to the State as to call for the infliction of the penalty of corporate death. But that conviction has been made to yield to a dutiful sense of respect for the later interpretation placed by the supreme court upon the same section 11 in the Conery case (41 An.), the effect of which has been to release the company from the obligation to furnish the city with a water supply for public purposes I cannot overrule that decision; that is the province of the court of last resort which rendered it.

I have also struggled against the inclination to hold the company accountable for the abuses growing out of discrimination amongst consumers, due to lack of uniformity in water rates; and I have reluctantly assented to the legal proposition that the court was powerless to act in the matter at the instance of the State—the individuals discriminated against alone having the right to complaint.

Nor have I been deaf to the public clamor for a better water supply. The clamor is not so much for a change in the source as for a change in the condition of the water. The source may be wholesome, but the water is muddy and uninviting. The people want clear water. There is not one of the 300,000 inhabitants of our southern metropolis who does not eagerly want to add to the prospective boon of perfect drainage and sewerage the great blessing of a better water supply. It is not fair that individual con-
278 sumers in this great city should be left to devise ways and means to filter the water drawn from the river.

The people must have pure and clear water. But they cannot demand it of the defendant company. It is not written in its charter that the water furnished by it shall be clear or filtered. It owes no obligations save those that are written there. The failure of the framers of that charter to provide for the improvement of the water supply so as to follow the tide of progress, cannot justify the imposition upon the defendant company of new and burdensome duties.

In conclusion, I would say that I have not been unmindful of the familiar canon of construction that charters of incorporations are to be strictly construed against the corporators, and that every reasonable doubt is to be resolved adversely to the corporation; but, with section 11 left out, I have been unable to find that the defendant has abused its privileges, or has refused to accomplish the conditions of its charter in the manner and in the particulars averred by the State, so as to have lost corporate life.

Just as I was rising from the consideration of this case, I was handed a brief by counsel for the State and the city, in which without pleading to that effect, the proposition is advanced that section 5 of defendant's charter, "in so far as it grants a monopoly and exclusive privilege of supplying the city of New Orleans and its inhabitants with water from the Mississippi river or any other stream, is in derogation of article 114 of the constitution of 1868, which provided that 'every law shall express its object or objects in its title;'" and it is claimed that, inasmuch as no such purpose or

object is expressed in the title, the monopoly should be decreed void and non-existent, in accordance with the alternative prayer of the petition.

Without insisting upon the necessity of formally pleading the unconstitutionality of a statute whenever the relief sought is predicated upon such unconstitutionality, it seems to me that this late contention is so completely at variance with the position assumed by the State in the petition that it cannot be entertained by the
279 court. The alternative prayer of the petition, in accord with the averments thereof, is "that it be decreed that the New Orleans Water Works Company has forfeited all exclusive privileges." * * * "And it be decreed that the company, having accepted and received the benefits of act 56 of 1884, its monopoly and exclusive privileges and franchises become thereby extinct and abandoned and abolished by operation of articles 234, 238 and 258 of the constitution of 1879, and no longer exist." This prayer affirms the existence at some time of the monopoly and exclusive privileges; the court is asked to decree that acquired rights have been lost, abandoned and abolished and no longer exist; whereas the present prayer of the State negatives the existence of the monopoly and exclusive privileges, and calls for judgment to the effect that, by reason of unconstitutionality in the grant, no rights ever were acquired. The inconsistency is glaring; in the interest of good pleading it cannot be overlooked.

Moreover, the title of the act assailed contains full refutation of the State's tardy pretension. It announces the purpose of the legislature not only to establish a corporation to be called the New Orleans Water Works Company, but to authorize that corporation to "issue bonds * * * to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water," thereby plainly indicating a grant to that corporation of the privilege to furnish the water supply mentioned.

Had the title of the act been simply "An act to establish the New Orleans Water Works Company," it would have been competent for the legislature to invest the corporation with the monopoly or exclusive privilege of furnishing water. Establishing a corporation means creating it with certain powers and privileges. To require that those powers and privileges should be recited in the title would be to require the title to be a repetition of the act. In incorporating a corporation, the legislature can endow it with all powers and privileges germane to the object disclosed by the corporate name, without detailing them in the title. Authorities in point are:

280 Crescent City Gas Light Company *vs.* New Orleans Gas Light Company, 27 An., 138.

Louisiana Lottery Company *vs.* Richoux *et als.*, 23 An., 743.

State *ex rel.* Belden *vs.* Fagan, 22 An., 546.

For the foregoing reasons, it is ordered, adjudged and decreed that there be judgment in favor of defendant, The New Orleans

Water Works Company, and against plaintiff, The State of Louisiana, rejecting its demand.

It is further ordered, adjudged and decreed that the interventions of The City of New Orleans and of The Board of Liquidation of the City Debt be dismissed at said intervenors' cost.

(Signed) GEO. H. THEARD, *Judge.*

N. O. Oct. 19, 1900.

281 *Judgment. Rendered October 19th, 1900.*

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Judgment.

For the reasons assigned by the court in the written opinion this day delivered and filed, the law and evidence justifying the judgment;

It is ordered, adjudged and decreed that there be judgment in favor of defendant, The New Orleans Water Works Company and against plaintiff, The State of Louisiana, rejecting the demand,

It is further ordered, adjudged and decreed that the interventions of The City of New Orleans and of The Board of Liquidation of the City Debt be dismissed at said intervenors' cost.

Judgment rendered in open court October 19th, 1900.

Judgment signed in open court October 25th, 1900.

(Signed) GEO. H. THEARD, *Judge.*

Judgment Signed.

Extract from Minutes of Division "E."

THURSDAY, *October 25th*, 1900.

Present: The Honorable George H. Theard, judge.

The judgment rendered in the following case was signed this day in open court.

State of Louisiana *vs.* New Orleans Water Works Company.

282 *Motion of the State of Louisiana for Appeal and Order of Court Thereon.*

Filed October 29th, 1900, and entered on minutes of same date.

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

On motion of Walter Guion, attorney general of the State of Louisiana, herein moving and appearing on behalf of the State joined by Benjamin Rice Forman, special counsel associated with the attorney general in the prosecution of this case, and on showing to

the court that he believes that there is error to the prejudice of the State and of the public in the final judgment rendered herein, signed on the 24th day of October, 1900, rejecting the petition of the State.

It is ordered by the court that the State of Louisiana be and is hereby allowed a suspensive appeal returnable to the supreme court of Louisiana on the first Monday of November, 1900, without bond, according to law.

Motion of The City of New Orleans, Intervenor Herein, for Appeal and Order of Court Thereon.

Filed Oct. 30th, 1900, & entered on minutes of same date.

Civil District Court, Division " E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

On motion of Samuel L. Gilmore, city attorney, and of Arthur McGuirk, assistant city attorney, and on suggesting to the court that there is error to the prejudice of the City of New Or-
283 leans, in the final judgment herein rendered on the 19th and signed on the 25th day of October 1900, dismissing the intervention of the City of New Orleans, and that said city desires to appeal suspensively therefrom ;

It is ordered by the court that the City of New Orleans be and is hereby allowed a suspensive appeal, returnable to the supreme court of Louisiana on the first Monday in November 1900 without bond, as the law directs.

Agreement of Counsel as to Transcript.

Filed November 20th, 1900.

Civil District Court, Parish of Orleans, Division " E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 58345.

It is hereby agreed that the defendant's documentary evidence and exhibits, with the index thereto, and bound together by the defendant and as prepared by defendant's counsel, may be sent up to the supreme court in the original, as a separate volume of the transcript of appeal, and without copying.

(Signed) B. R. FORMAN,
Of Counsel for State of La.
" FARRAR, JONAS & KRUTTSCHNITT,
Att'ys for Def't.
" J. R. BECKWITH,
Att'y for Def't.

New Orleans, Nov. 16, 1900.

284 *Certificate of the Clerk of the Civil District Court.*

STATE OF LOUISIANA,
Parish of Orleans, City of New Orleans.

Civil District Court for the Parish of Orleans.

I, William B. Murphy, deputy clerk of the civil district court for the parish of Orleans do hereby certify that the foregoing one hundred and ninety-four pages, containing the pleadings and being volume No. 1 and the — pages in vol. No. 2 containing testimony and note of evidence and — pages in vol. 3, containing defendant's documentary evidence, do contain in said three volumes, a true and correct and complete transcript of all the proceedings had, documents filed and evidence adduced upon the trial of the cause wherein The State of Louisiana is plaintiff and The New Orleans Water Wroks Company is defendant, instituted in this court and now in the records thereof under the No. 58,345 of the docket thereof division "E" the Honorable Geo. H. Theard, judge except such books, bottles, receipts, meters, junk and four glass tubes, mounted on a card, forwarded in original form, all in accordance with agreements between counsel for the parties in interest, copied in volume No. 1, pp. 160 & 194 thereof, and such books as were withdrawn on motion of J. R. Beckwith Esq. attorney for defendant, filed December 20th, 1899.

In testimony whereof I have hereunto set my hand and affixed the impress of the seal of said court at the city of New Orleans on this twenty-first day of November in the year of our Lord one thousand nine hundred and in the one hundred and twenty-fifth year of the Independence of the United States of America.

(Signed) W. B. MURPHY,
[SEAL.] *Deputy Clerk.*

284½ UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

THE NEW ORLEANS WATER WORKS COMPANY, Plaintiffs in Error,
vs.
STATE OF LOUISIANA ET AL., Defendants in Error. } No. 13701.

J. R. Beckwith Esq. Farrar, Jonas & Kruttschnitt and E. Howard McCaleb Esq. for plaintiffs in error.

Walter Guion Esq. attorney general, and Benjamin Rice Forman Esq. for defendants in error.

Samuel L. Gilmore, city attorney, and Arthur McQuirk, assistant city attorney, of the city of New Orleans, for The City of New Orleans, intervenors.

Branch K. Miller Esq., attorney for Board of Liquidation, intervenors and appellees.

Writ of error to the supreme court of the State of Louisiana from the Supreme Court of the United States of America, returnable at the city of Washington, D. C., within thirty (30) days from the tenth (10) day of February, A. D. 1902.

Volume No. 2—Testimony.

285 *Statement of L. H. Gardner, Offered in Evidence by Plaintiff and Made Part of His Testimony, as to Contract with New Orleans Ice Company.*

NEW ORLEANS, *January* 19, 1900.

Mr. B. R. Forman.

DEAR SIR: You have asked me as a witness, first, to state the meter rates charged the N. O. Ice Co.

Second, what flat rate or yearly rate was charged them after meter was discontinued.

Third, rate at which other ice companies were charged.

In answer, I would say:

First. The N. O. Ice Company was supplied by meter for six months in 1893, the price being graded according to quantity of water used monthly. During the six months of April and September 1893 (inclusive) this ice company used 4,368,825 gals. of water, and paid total $587.05. This indicated an average rate per 1,000 gals., approximately, of 13½ cents.

Second. After a discontinuance of meter, a flat rate or yearly rate, for a term of years, of one thousand dollars per annum.

Third. The Consumers' Ice Co., in asking for a water supply, indicated an exclusive supply from the mains of the water works Co., amounting prospectively to some 500,000 gals. daily and was
286 accorded a special rate of 8 cents per 1,000 gallons.

The New Consumers' Ice Co., having wells and a divided supply was furnished under a graded rate in accordance with monthly consumption of water—similar to the arrangement with the New Orleans Ice Co.

The Crescent City Ice Co. pays a monthly rate of $200 when they use water from the water-works mains.

The Independent, and the Central Ice & Cold Storage Companies used wells and paid regular rates but their use of water from the mains of the water works Co. was very limited.

Yours truly,

L. H. GARDNER,
Supt. New Orleans Water Works Co.

I consent that the foregoing letter of Mr. L. H. Gardner be filed in evidence as part of this testimony in case of State of Louisiana *vs.* New Orleans Water Works Company.

J. R. BECKWITH,
Att'y for Def't.

287 Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Testimony and notes of evidence taken in open court, before the Hon. Geo. H. Theard, judge, on the 9th day of November, A. D. 1899, on behalf of plaintiff.

Reported by M. C. Lejeune, stenographer.

Appearances.

For plaintiff: Messrs. M. J. Cunningham, attorney general. B. R. Forman Esq.

For City of New Orleans, J. J. McLoughlin Esq.

For New Orleans Water Works Co. Messrs. J. R. Beckwith; E. B. Kruttschnitt, of Messrs. Farrar, Jonas & Kruttschnitt; E. Howard McCaleb Esq.

For Board of Liquidation, intervenor, Branch K. Miller Esq.

This case coming up for trial on this day, counsel for plaintiff calls for the return on the *subpœna duces tecum* issued for the production of the hydrant ledgers of the company. Thereupon, counsel for the water works company stated that all the ledgers except the current one, were in court. That the current ledger was needed for the company, and would be produced whenever needed in court. Thereupon, counsel for plaintiff offered in evidence said hydrant ledgers, and counsel for the water works company objected on the ground, that they were in the nature of public ledgers, and the originals should not be kept in court.

The court overruled that objection and admitted the ledgers in evidence.

288 Counsel for the defendant company excepted to the ruling of the court, and reserve this note in lieu of a bill of exceptions, being joined in the exception and reservation by counsel for the board of liquidation.

Counsel for plaintiff offered in evidence a certified copy of an ordinance of the city council of New Orleans fixing the water rates, dated December 9th, 1869, and finally passed over the mayor's veto, on January 11th, 1870.

Counsel for defendant company objected on the ground that that was not an ordinance because it had never been promulgated, and that what purported to be an ordinance was simply an extract from the journal of the proceedings of the board of aldermen, and assistant aldermen. That the act of 1856—the charter of 1856, under which the city was then operating, contained a provision that an ordinance, to have any effect, should have the approval of the mayor, or should be passed over his veto, and only when promulgated, should have the effect of law when passed over the veto.

By the COURT: The objection goes to the effect, and not to the admissibility of the evidence.

To which ruling of the court counsel for defendant company except, and reserve this note in lieu of a bill, being joined in said exception and reservation by counsel for the board of liquidation.

Counsel for plaintiff also offers in evidence copy of a joint resolution of the legislature, approved by the governor on June 9th, 1898. Also a report of R. L. Macmurdo, secretary of the water works company, made to the city council as to street repairs, and service repairs, and showing State and city taxes paid; and states that this document was before the committee of the city council.

289 Also offers in evidence a report of the secretary as to the gallons of water pumped annually, dividends declared, annually, interest and coupons paid, profit and loss account; operating expenses, street-service repairs, and pump and service repairs.

Also offers in evidence copy of an act passed before Joseph D. Taylor, notary public, between the city of New Orleans and the water works company on the 3rd of October 1884.—An act of the legislature No. 56 of act 1884, under which said act was passed. Being the copy already on file and annexed to the pleadings.

It is understood and agreed that all acts of the legislature, including the charter of the water works company, and the amended charter thereof, and the act of 1884 just offered, shall be considered in evidence without being formally filed, and shall be used without being inserted into the record or copied into the transcript of appeal, and may be used to refer to by either party, either in this court or the appellate court. And it is understood and agreed that this agreement shall apply to all acts of the legislature which may in any manner be relevant in this case.

Counsel for plaintiff also offers in evidence, record No. 9,565 of the civil district court, entitled John Foster *vs.* N. O. Water Works Co.

Counsel for defendant company excepts to the latter offer on the ground of irrelevancy, and as being *res inter alios acta;* and is joined in this objection by counsel for the board of liquidation.

By the COURT: I will admit the evidence to prove *rem ipsam.*

To which ruling of the court counsel for defendant company, and counsel for the board of liquidation except, and reserve this note in lieu of bills of exceptions.

290 Counsel for plaintiff also offers in evidence record No. 9,566 of the civil district court, being the case of Ernst & Co. *vs.* N. O. Water Works Co.

Same objection by counsel for defendant company, and counsel for board of liquidation.

By the COURT: I overrule the objection.

To which ruling of the court, counsel for defendant company and counsel for the board of liquidation except, and reserve this note in lieu of bills of exception.

Counsel for plaintiff offers in evidence record in the case of Allen & Syme *vs.* N. O. Water Works Co., No. 9,567 of the civil district court.

Same objection by counsel for defendant company, and counsel for board of liquidation.

By the COURT: I admit the evidence to prove *rem ipsam*.

Same exception, and same reservation reserved by said parties to the ruling of the court.

Counsel for plaintiff also offers in evidence record No. 9,568, Louis Ruch against the New Orleans Water Works Co.

Same objection; same ruling by the court, and same reservation by same parties.

Counsel for plaintiff also offers in evidence the case of Warner & Hoeltzel *vs.* N. O. Water Works Co., No. 9,569 of the docket of the civil district court.

Same objection, same ruling by the court, and same reservation.

Also offers in evidence the following cases which have been appealed to the supreme court; it being understood that the transcript in the supreme court may be used and the volumes referred to in those cases can be appealed to for reference.

291 The foregoing being subject to the objections of the defendant company.

Peter Callery *vs.* N. O. Water Works Co., reported in 35th Annual 798.

N. O. Water Works Co. *vs.* Louisiana Sugar Refinery Co., and The City of New Orleans, reported in 35th Annual 1111.

Isaac Levy *vs.* N. O. Water Works Co., reported in 38th Annual page 25.

Isaac Levy *vs.* N. O. Water Works Co., reported in 38th Annual 29.

State *ex rel.* N. O. Water Works Co., *vs.* Isaac Levy, reported in 36th Annual 941.

Ernst & Co., *vs.* N. O. Water Works Co., reported in 39th Annual 550.

To which offers beginning with the case of Peter Callery *vs.* N. O. Water Works Co., counsel for defendant company object on the ground of irrelevancy, being therein joined by counsel for the board of liquidation.

By the COURT: The objection is overruled.

To which ruling of the court counsel for defendant company, and counsel for board of liquidation except, and reserve this note in lieu of bills of exception.

Counsel for plaintiff offers in evidence the annual reports of the New Orleans Water Works Co., from 1879 to 1899, and the last report of the administration of the water works. All contained in the volume of Edwards, and in case of appeal, it is agreed that the printed volume containing those reports shall go up in the original as part of the transcript, and need not be copied into the transcript.

Counsel for plaintiff also offers in evidence the annual report of the board of fire commissioners from 1892 to 1898.

Objected to by counsel for defendant company as being *inter alios acta*, and on the ground of irrelevancy, and in no way binding upon the defendants.

292 By the COURT: I think that the objection is sound.

To which ruling of the court counsel for plaintiff excepts, and reserves this note, and asks leave of the court to annex the documents as a part of this bill.

J. P. HALPIN, Esq., sworn on behalf of plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your employment?

A. I am an engineer.

Q. What kind of engineer?

A. A regular engineer in regards to being brought up so in the house.

Q. Well, are you a civil engineer, mechanical engineer, an electrical engineer——

A. No sir.

Q. Well, what kind of an engineer are you?

A. Well, engineer brought up as a handy man, as an engineer.

Q. You are engineer of one of the fire-engines are you not?

A. Yes sir.

Q. You have been in the habit of operating a fire-engine?

A. Yes sir.

Q. How long have you been engaged in that occupation?

A. Well, I have been engaged for the last two years and a half; something like that.

Q. Have you attended a good many fires?

A. Yes sir.

Q. Do you know of any fires at which you could not get enough water for the purpose of extinguishing them?

A. That depended upon the locality sir.

Q. Have you attended any fires at which the supply of water was not adequate—not sufficient for extinguishing the fire?

A. Yes sir.

293 Q. Will you name some of them?

A. Well, back about ten or twelve years ago, in 1892——

Q. What is that?

A. About ten or twelve years ago; there is a plug on Poydras between Tchoupitoulas & South Peters, there is a plug there that we had to go into, and we had to go into the gutter because it was not sufficient to give a supply to the engine; and there was a plug on Poydras between Fulton and Tchoupitoulas.

Q. On what street was that?

A. On Poydras between Foucher & Tchoupitoulas.

Q. What was the matter there?

A. There wasn't sufficient water.

Q. Has it ever occurred within your experience that you had to wait a good while after the fire was started before you got any water?

A. Well, that is provided the fire was up ahead of the engine, I would get enough water to put out the fire then.

Q. I don't understand?

A. I say if I was up ahead—above of the fire, I would have sufficient water to put out the fire; but if I was down below the fire I would not have enough.

Q. You mean to say if you were between the fire and the water pump you could get water, but not otherwise?

A. No sir.

Q. That is, further away from the water works than from the fire?

A. Yes sir.

Q. Does that happen often?

A. Yes sir, it does.

Q. What was the condition at the fire at the corner of Magazine & Ninth streets, near the market there?

A. I don't know anything about that; I wasn't there at that time.

Q. You wasn't there that time—Magazine and Second
294 or Third maybe it was?

A. No sir, I only been up in that locality about seven months.

Q. Was the supply at fires usually muddy or clear?

A. It was muddy.

Q. What effect has that on the wear and tear of the engine?

A. It cuts away——

By Mr. BECKWITH: Are you an expert?

A. I was brought up as an engineer.

By Mr. FORMAN: You were a stoker at that time?

A. Yes sir—not at that time; I am speaking of now; but I was brought up as an engineer.

By Mr. BECKWITH: As to the question, it is an expert question.

By Mr. FORMAN: Do you object to that question?

By Mr. BECKWITH: Yes sir. The question is an expert one, and I think he should be qualified as an expert, and therefore I object to the question unless he be qualified as an expert.

By Mr. FORMAN: He states that he has been operating for a number of years a steam fire-engine, and it seems to me that he is qualified to testify on that question.

By the COURT: I overrule the objection.

By Mr. FORMAN:

Q. What was the effect of the muddy water upon the valves of the engine operated by you?

A. Well it effected all of the engine; the pumps and valves and also the boiler. Its effect was felt all over the engine.

Q. How does it effect it?

A. It cuts everything away—the sand does.

Q. The sand in the water?

A. Yes sir.

295 Q. Cuts the valves?

A. Yes sir.

Q. And what else?

A. The chambers and the check-barrel and all the valves connected with the engine. It cuts them all.

Q. Did you attend the series of fires or any of the fires that occurred in Audubon place caused by the electric wires there, out on St. Charles avenue?

A. No sir.

Q. Did you attend the fire on Magazine near Sixth street occupied by the People's theatre?

A. No sir.

Cross-examination by Mr. BECKWITH:

Q. Will you give us the date of the fire you spoke of in your direct examination as having occurred on Tchoupitoulas near Magazine—near Poydras?

A. Well, about three years ago——

Q. How?

A. About three years ago——

Q. Was it the building that stood on the down-town side and river corner of the block?

A. No, sir, on the up-town corner—corner of Poydras & Foucher.

Q. Poydras and what?

A. Foucher street.

Q. Didn't you tell us of a fire on Tchoupitoulas near Poydras?

A. Yes sir, a fire at the corner.

Q. Six corner buildings were burned?

A. Yes sir.

Q. What engine were you a stoker on then; what number?

A. A stoker at that time? I was engineer at that time; that was around in 1892, I think.

Q. Well, where did you locate your engine?

A. We located it on Poydras street between Tchoupitoulas & S. Peters—on the down-town side.

296 Q. What side of the street was the hydrant on?

A. On the down-town side.

Q. Do you know anything about the distribution of the water pipes there?

A. No sir.

Q. Did you ever know it?

A. Well, I generally do; there are mains around there, but I never kept the run of them.

Q. Well, did you know that there were any fire-wells in that vicinity-

A. Yes sir, that is back——

Q. What?

A. That is back about fifteen years ago.

Q. There were no fire-wells there between that point and the river at that time?

A. Oh, not at that time; but there was a well out in front toward the river.

Q. On what street?

A. On Poydras & Fulton I think it was.

Q. Were there not two wells in the vicinity there?
A. Yes sir, right now at the present.
Q. Then—at that time?
A. No sir.
Q. You don't know that there were two wells on a large main in front, one having an eight-inch delivery, and the other two eight-inch delivery?
A. Yes sir, right now they have.
Q. You didn't know it then?
A. Yes sir, but I am speaking of years ago. It is lately they put those wells there on Poydras & Tchoupitoulas.
Q. Did you ever know that there was a thirty-inch water main running up and down, down between Tchoupitoulas and the river?
A. No sir, I never heard of that.
Q. You never knew of any fire-wells on that main?
A. One fire-well out in front towards the river, yes.
Q. Is it not true that at the time of that fire you speak of, when the fire department found out about those wells, they opened
297 both of them, and flooded Poydras street with water?
A. Yes, sir, at that time—you speak of a different occasion. I speak of years ago.
Q. 1892?
A. I am speaking of years ago.
Q. You say, as a fireman, you didn't know there was a fire-well in that vicinity on a thirty-two inch-well in front?
A. At the corner of Tchoupitoulas & Poydras.
Q. You spoke of a fire on Foucher street; did you ever know, or do you know now, what the distribution of water pipe is there now; the mains and the sizes of them?
A. The mains there—well it is mighty poor pressure we get on those cross-streets.
Q. You don't want pressure for a pump, do you?
A. Yes sir, but that——
Q. Answer my question; how much do you fire-department men know about the distribution of water in that locality. Do you know of the mains near Foucher street, or the nearest fire-wells there?
A. Well, I don't know about the mains, but it is according to the position we take at the fire.
Q. Now you spoke of a fire up near Ninth street. Were you not at that fire?
A. No sir.
Q. Now can you tell me what fire-wells there are in the vicinity of the fire on Foucher street and the fire on Tchoupitoulas street, and the sizes of those mains?
A. Well, there is one at Poydras & Tchoupitoulas; one at the corner of Magazine & Poydras, and one at the corner of Poydras & Fulton St.
Q. That is all you know about it?
A. That's all in that locality—and one on Gravier & Fulton, around that neighborhood.

Q. Is that about the extent of the information you people
298 have when you go out to a fire?

A. No sir; you speak to me of what wells are in that locality; well, that is all the wells around that locality.

Q. Between there and the river?

A. Between Girod & Fulton.

Q. You never knew of a thirty-inch main in front?

A. In front? I have heard about the different mains, but I never kept the run of them.

Q. And you don't know of any fire-wells on that thirty-inch main, between Canal street and St. Mary's market?

A. I know they had big mains, but I never knew the size of the mains.

Q. Did you know that—did you know how much water the water works department furnished for that fire on Tchoupitoulas street?

A. No sir, I don't know. I couldn't exactly say; I know there was a good supply.

Q. You think it was enough to fill the building three times full?

A. Yes sir, I think so.

By Mr. FORMAN:

Q. When you go to a fire under whose direction do you place your hose, and fix the couplings?

A. The captain.

Q. Who locates the engine and stated where they are to be?

A. The driver locates the engine.

Q. Does the driver go only where he wants to go?

A. Well, he knows the locality of the wells and the plugs.

Mr. A. C. BELL, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Bell, you are the city engineer?

A. I am sir.

Q. You have been such since May 1896?

A. I think—the 1st of May, 1896.

299 Q. Did you ever make any investigation as to the number of miles of inhabitated or improved and built-up streets in the city of New Orleans?

A. I had the investigation made; yes sir.

Q. Will you look at that letter of yours and state whether that is the result of that investigation?

A. Yes sir, it is.

Q. Did you also ascertain the number of miles of water mains, with the different sizes?

A. I didn't ascertain the number of miles of water mains of the different sizes, but the number of miles of water mains laid—the total length of mains in the city.

Q. That was June 16th, 1898?

A. 1898—on this side of the river.

Q. And this statement is correct?
A. It is correct sir.

Counsel for plaintiff offers in evidence the document identified by the witness.

Cross-examination by Mr. BECKWITH:

Q. Within what limits and boundaries in the city, does this statement include Mr. Bell?
A. It is impossible for me to give you that information Judge, because I don't remember now what the boundaries would be. I don't know—I didn't know I would be called in this case. In fact I received no subpœna; so that is the reason I am not at all prepared.
Q. Will you tell us how you arrived at the total length of built-up streets—was it by estimates or by measurements?
A. It was by means of estimates from the maps—and the way I ascertained the built-up portion of the city was by reference to the maps of the drainage commission.
Q. Then if the scale of the map was wrong, your estimate was wrong?
300 A. I don't admit that the scale of the map was wrong.
Q. But I say, if it was wrong——
A. If it was wrong, but I don't admit that the scale was wrong.
Q. On what material is the map made—on paper—is it a paper map?
A. It is made—my recollection is that it was made from the blue print of the map in the drainage department.
Q. As to the map and the survey on which that map was based, you had nothing to do with it at all, I believe?
A. I had nothing to do with the survey from which that map was compiled.
Q. Will you tell us by what system of measurement and explorations you arrive at the number of miles or feet of the mains of the water works company?
A. Do you mean the mains that are in existence at present?
Q. The mains referred to in this statement?
A. Well, that is if you refer to the mains laid at present in the city of New Orleans by the water works company?
Q. I refer to the mains that you refer to in this statement as existing at that time?
A. I arrived at that from the map I had compiled when I first went into office, and that information I derived from various sources, namely: from the water works company's office.
Q. That is, in the manner of measurement then, it is an estimate?
A. Yes sir, it is an estimate.
Q. In this estimate of yours of the built-up streets, how did you arrive at your own knowledge of the character of streets—whether built up or not?

A. I think I have answered that question fully already; I stated that I arrived at that from the maps of the drainage commis-
301 sion, which show the built-uo portion of the city. Those maps were prepared from careful investigation, as I understand it, and compiled with the necessary "run off" in preparing this plan for drainage.

Q. Now what indication of buildings and built-up portions of streets does that map carry?

A. It is impossible for me to answer that question. If we had the maps here it would be illustrated.

Q. Was it by illustrations or figures, or memorandum along the streets, that you arrived at the built-up conditions?

A. I trace- the limits of the built-up portion on a large map, and then measured by scale the streets that were included in that area, and in that way I arrived at an estimate of what would be necessary in the way of mains to supply that area with water.

Q. Then, as I understand it, the general map had tracings or indications that marked the boundary of the built-up district?

A. Undoubtedly; there was a line of demarcation.

Q. Now in making this statement of the built-up condition of the street what is the extent in this statement—give us your idea of what is a built-up street; how many houses to the block, and how many blocks are built up?

A. I made no such investigation as that; I simply have taken the information that was furnished me by the maps of the drainage commission.

Q. And your mileage then is made up from that delineation on that map which you consulted without separate knowledge of the extent to which the streets were built up?

A. I made no investigations on the ground, of the street.

By Mr. FORMAN:

Q. Who made the survey and plan of the drainage commission from which you made your estimate?

302 A. That survey and plan was made under the supervision of Mr. Brown the city engineer at that time, who had charge of the topographical survey.

Q. Then you also make plans of the streets through which the water mains were laid?

A. I compiled those plans yes sir. It is my recollection that those plans *or* on the same scale as the topographical survey, and I compiled the data and located the mains as nearly as could be ascertained, from the data we obtained.

Q. And you got most of the data from the water works company you say?

A. Yes sir, most of it.

Q. Mr. Bell, what is the character of the supply of the water at the city hall in the upper floor, as to quantity?

A. On the third floor—well, I can only testify to that, as to the flow, from hearsay, not from actual knowledge.

Q. Any pump in use there?

A. No; but I will state in this connection that it is my intention to have a supply of water up in the fire-alarm office. We are going to locate a tank on the roof of the building, and we have ascertained that the pressure that the water works company furnishes will not be sufficient to fill the tank on the roof, and I have embodied in my specifications a pump, which will be run by an electric motor to pump that water up into the tank.

Q. How high is that from the ground?

A. My recollection is it is about seventy feet.

Q. What pressure will be required upon the part of the water works company to deliver the water at that height?

A. I am not prepared to answer that question. Those are questions that I would have to refer to memoranda in order to
303 answer. It is a matter of easy figuring, if I had the formula.

Q. You say as to your personal knowledge of the difficulty in getting water—that it is from hearsay; from whom did you get that information?

A. From my assistant—the boys in the office. They are using the blue-print frame up there.

By Mr. BECKWITH:

Q. Have you any idea what is the size of the service taken off the mains for the city of New Orleans—what is the size of the service? By service I mean the pipe taken off the street mains to supply the city hall premises?

A. No sir, I have no idea of the size in that pipe.

Q. What is the size of the pipe running down the rear walls, where it is above the ground; is it over three-quarter-inch?

A. I am not prepared to answer that question.

Q. Is it not true that as that service comes up and passes into the yard along the walls it runs to a long urinal where there is a perforated pipe, and the water running constantly?

A. The supply to the closets and urinals are independent to that pipe along the wall, of the city hall. The pipe you mention, I don't dispute, is more than three-quarter-inch. It simply supplies one wash-stand and the filter; the filter in my office.

Q. Where is the other service admitted; you have got more than one service there?

A. We have; we might conncet with the closets that pipe under ground but we don't connect with the pipe above that. We connected with the water main on the street.

Q. When was that?

A. That was since the erection of the new closet; we have a large building—an annex building to the city hall in which we
304 have placed urinals and water-closets and now have that in operation.

Q. That urinal in the court is still in existence?

A. No sir; it has been torn out.

Q. How long ago?

A. I presume about sixty days ago.

Q. Well now, am I not correct in stating that the water that is taken up to your office comes from the service that enters the city hall premises at the rear and formerly ran to the urinal?

A. Yes sir.

Q. Is not that a very crooked service in the disposition of pipes?

A. Yes, there are bends in the pipe and right angle too.

Q. Do I understand you to say that in putting the addenda in the city hall, the wash-stands, urinals and water-closets, that a new connection, independent of the old main was made, or did you connect with the old service under ground?

A. It is my impression that we connected with the old service under ground.

CASPAR PETRIE Esq., sworn on behalf of plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Were you ever president of the Washington Fire Company No. 20?

A. Yes sir.

Q. Do you know of any occasion when at fires, you couldn't get enough water for extinguishing them?

A. Yes sir, on several occasions.

Q. Can you name one or more?

A. Well, at the cornor of Felicity road & Dryades street——

Q. What happened there?

A. Well, at the corner of Felicity and Dryades there was
305 No. 20, and 5, and another engine there, and we were requested to stop working because the well didn't supply the three engines. Also the burning of Marx dry-goods store.

By Mr. MCCALEB:

Q. When was that?

A. Felicity & Dryades; it was about seven or eight years ago.

By Mr. FORMAN:

Q. Marx fire—about ten years ago; well what about Marx's fire?

A. The plug opposite the engine-house didn't supply the engine, and we were forced to move our engine and forced to take the water which was already thrown on the fire. That plug, whenever you opened the plug wouldn't even supply an ordinary hydrant let alone a fire-engine.

Q. Where was that?

A. It is opposite the engine-house on Thalia street.

Q. Can you recall any other particular instances where the water supply was insufficient?

A. Well, not as I can recollect; I have been at fires, that the engineer sent word he didn't have sufficient water, and we had to do the best we could.

Cross-examination by Mr. BECKWITH:

Q. Will you give us the exact location of the well that you speak of as being on Thalia street, and between what streets it is?

A. It is a plug.

Q. A plug?

A. Yes sir, about the middle of the square opposite the engine-house.

Q. Well, the engine-house is located between what streets?

A. Between Thalia and Dryades street—Baronne & Dryades.

Q. Do you know anything about the water distribution there; about the main there. Are there any wells there or not?

A. The nearest well to that is on Euterpe and Dryades.

306 Q. Well, the water was allowed to run passed you, past those fires and down in the gutter?

A. No sir; if I am not mistaken, the supply of water came from Baronne street, and this Thalia Street plug I think is, a four-inch pipe, and when you work on Baronne street you take away, or cut off the supply from this pipe, and consequently there would not be a necessary supply.

Q. How many engines were taking water on that occasion, and where were they located?

A. Well, there were three. You mean the fire on Dryades & Felicity?

Q. Yes.

A. Well, three at the well; I can't say how many above.

Q. Well, I asked you about that well a while ago, and you said you meant the fire-plug?

A. You mean the plug on Thalia street?

Q. Where is the well?

A. On Euterpe & Dryades street.

Q. Do you know of any other well in that vicinity?

A. There is a well on Rampart & Felicity.

Q. Do you know when there is an adequate supply of water, how many gallons the engine, usually connected with it, would throw?

A. No sir, I couldn't answer that.

Q. Was your engine less or greater in capacity than the other engines at that fire?

A. Well, it was a third-class engine. It should judge it to be about the same.

Q. Now you talked about the Marx fire. Where did he have that fire?

A. On Thalia street and Dryades.

Q. Where?

A. Thalia & Dryades.

Q. Well, was it a pretty good fire?

A. Yes sir, a pretty good fire.

307 Q. What sort of building was it?

A. It was a frame building with a brick front.

Q. How many engines did they have there?

A. I should judge about eight or ten.

Q. Do you know what are the mains of the water works company that extend there or not, and what sizes they are?

A. There is a main on Dryades—I think an eight-inch pipe. And there is a supply pipe on Baronne street also.

Q. And how many engines did you have on that?

A. About eight; I am not positive.

Q. How much of a fire did Marx have; one building, or two buildings, or three buildings burn?

A. Three;—his place and the two adjoining places.

Q. What was it occupied by?

A. A dry-goods store a grocery store, and I think a crockery store.

Q. Was it a one-story building?

A. No sir, a two-story building.

Q. What time was it—give us the date?

A. You got the best of me about the date.

Q. Well, about?

A. Between twelve and half past two in the morning I know.

Q. Now, it is important for you to fix the date if you can, because we know precisely how much water we pump for every fire, and therefore if you know about, fix the date; give us the nearest you can. Can't you ascertain the year, the time or something?

A. I said about ten or twelve years ago.

Capt. M. P. CASHEN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are captain of the fire-insurance patrol on Julia street?

308 A. Yes sir.

Q. How long have you been attending fires?

A. From boyhood up sir; going on twenty-seven years.

Q. What can you say with reference to the sufficiency of the supply of water for the extinguishment of fires?

A. I happened to be at several fires where there was a scarcity of water, and my attention was drawn to it by the chief engineer of the fire department.

Q. You went to some at which there was an insufficient supply of water?

A. At the time of that big fire on Third & Magazine there was a scarcity of water there sir.

Q. When was that, as near as you know?

A. That was shortly after the change of the volunteer department into the paid department.

Q. To what extent was there a scarcity or deficiency of water?

A. Well, there was a slack of water; there were some streets up there I noticed had flooded, and there wasn't enough water to supply one engine from the plug, and we took water out of the streets on this side of it.

Q. What was the extent of that fire Captain?

A. It burned about four or five squares.

Q. Destroyed four or five squares of property?
A. Yes sir.
Q. How many engines were called out?
A. I can't say sir.
Q. Generally the whole fire department?
A. I couldn't say; I was attending to covering furniture and saving it.

Q. I understood you to say that from your observations
309 that below the fire you couldn't get water?
A. No sir.

Q. You mean those other engines away on this side of the water works—the others away from yours?
A. Yes sir.
Q. What do you know of the fire that destroyed William Weil's (?) place?
A. Yes sir.
Q. What about the scarcity of water there?
A. As far as that fire was concerned I didn't get there at the start of it; I came there on the general alarm; I was at home, but from what I heard it was very scarce; there was a great scarcity of water.

Counsel for defendant company objects to the evidence as hearsay.

By Mr. FORMAN:

Q. Did you observe yourself any scarcity of water?
A. I didn't pay particular attention to that sir.
Q. Do you know what companies were present at that fire?
A. I do not.
Q. Do you recall the fire at the Chess, Checkers & Whist Club?
A. I do.
Q. What about the supply of water there?
A. I know there was some trouble; there were pretty long getting water on the fire sir.
Q. Were you at the fire at the corner of Canal & Bourbon that destroyed the Schwartz building?
A. Yes sir. It would be a pretty hard matter for me to give dates; I would have to look at the records to do that. I couldn't remember the dates.
Q. Did you go to the fire at the corner of Canal & Bourbon?
A. Yes sir.
310 Q. What have you to say as to the supply of water there?
A. It seemed to me they were pretty long in getting a supply there.
Q. Sir?
A. They were pretty long in getting it.
Q. How long?
A. Well, we had time enough to take the pianos out of the piano store, and the first stream of water I seen thrown on there was from engine No. 7, I believe, and the next stream from engine No. 5.

Q. Well, what was the interval before they could get it?

By Mr. BECKWITH: You had better ask him how long it was before they began throwing the water—how long after the engine got there before they began to throw water?

A. I should judge about five to ten minutes when the property got good on fire.

Q. If there had been an adequate supply of water, how long would it have taken?

A. They could have thrown it on immediately at the time they got their engines there.

Q. Do you recall any other fires at which there was an insufficient supply of water?

A. There were so many that I couldn't positively recall the dates or time, though I knew of them.

Q. Well, without reference to dates?

A. There was one fire at the Kerlerec market that burned two or three blocks out there, due to the scarcity of water. They had to lead from steamer to steamer to get water; and there was another fire on Esplanade avenue.

Q. Was that since 1878—twenty-two years ago?

A. Yes sir, since then. I know our wagon came near burning up at the time; it burned three or four squares in that neighborhood.

311

Q. It burned three or fours quares?

A. Yes sir; we had to wait for the tugboat Tyler or Protector, at that time to make a line from the river to the gutter.

Q. And let it run back?

A. Yes sir.

Q. How far back on Esplanade was that?

A. One block on this side of Claiborne. It was the fire that burned the church there.

Q. It was the fire that burned the church?

A. Yes sir, that is the one I have reference to.

Q. Did you keep any memorandum or record of those fires?

A. The only record I kept was the numbers of the buildings burned, and the insurance thereon, and the dates.

Q. And the dates?

A. I have got the dates in our record, yes sir.

Q. Well, now you will accomplish a great deal if you will make us a copy of that record from 1878 until the present time?

A. It would take a considerable length of time.

Q. Can you give us the dates and the places of fires, at which there was a scarcity of water?

A. Not right now.

Q. No, but this case will go on for a long time.

A. I will try to do so.

By Mr. FORMAN: I will ask to withdraw the witness until he furnishes the data etc., asked for.

Cross-examination reserved:

312 S. Jozsa, Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. Forman:

Q. What is your occupation?
A. Barber.
Q. Where?
A. 925 Poydras street.
Q. How long have you been—you keep a bath-house also?
A. Yes sir.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. How long have you done so?
A. About six or seven years.
Q. What are your—you have a meter?
A. No sir.
Q. What are your facilities for using it. How many hydrants have you?
A. I have my filter connected with a hydrant; that filters the water and throws it up into the cistern about twenty-seven feet from the ground.
Q. You have but one outlet?
A. Yes sir.
Q. Three-quarter inch?
A. I think it is one and one-quarter inch.
Q. That is the size of the service pipe connecting between the main and the premises?
A. Yes sir.
Q. What is the size of the escape where the faucet comes out—where the water comes out?
A. That's one inch and a quarter, I think; I couldn't say positively.
Q. Have you brought any of your receipts?
A. Yes sir.
Q. Let's see them.

Witness produces receipts and says: There is for three years, two years previous and this year.

By Mr. Beckwith: When did you pay these?
A. Every year.
Q. It is very likely subsequent to the suit, one of them——
By Mr. Forman: Are these three receipts the only ones you could find?

A. Yes sir, the balance I must have thrown away or lost.

313 Q. Well sir, for the years previous to these that you have produced, what had you been paying?
A. Forty-five dollars like those delivered to you.
Q. All previous ones were for forty-five dollars?
A. Except this year; this is for thirty-six dollars.

Counsel for plaintiff offers in evidence the three receipts produced by the witness.

Counsel for defendant company object to one of those receipts, which is subsequent to the institution of this suit. And counsel for the board of liquidation joins in said exception.

By the COURT: I think the objection is good, and it is maintained; the receipt dated October 1st, 1896, and the receipt dated October 1st, 1897, may go in as evidence but the court excludes the receipt dated October 1st, 1899.

Counsel for plaintiff excepts to the ruling of the court, and makes this note in lieu of a formal bill of exceptions, and asks leave to annex the receipts to the bill.

Q. Did you ever apply for a meter?
A. Yes sir.
Q. What answer did you get?
A. They didn't give me none.
Q. They wouldn't let you have a meter?
A. No sir.
Q. What reason was assigned?
A. I can't tell you sir; I don't know no reason.

Cross-examination by Mr. BECKWITH:

Q. What was your original number?
A. 227 the old number.
Q. The old number?
A. Yes sir.
Q. And what is your new number?
A. 925.
Q. When did you first use the water?
A. Six or seven years ago.
Q. How many baths have you?
A. Three baths.
314 Q. How many washstands?
—. I got one washstand, using two bowls.
Q. So you have two separate bowls?
A. Yes sir.
Q. What else have you got?
A. That's all.
Q. You have no hydrant in the yard?
A. No sir—that's for another party in the yard; not for me. He pays twenty-five dollars for the hydrant.
Q. Who does?
A. Herman Howes.
Q. What have you to do with it?
A. I have nothing to do with it; you asked me about it.
Q. You take water from it?
A. I take my filter—it is connected with a pipe and the water goes from the hydrant to my water filter.
Q. There is a hydrant in the yard, is there not?
A. Yes sir, but it is not for me.
Q. Who is it for?

A. Herman Howes.
Q. Who is he?
A. He keeps a coffee stand.
Q. Where does he live?
A. He lives in the same house; he pays a separate bill.
Q. He pays a separate bill?
A. Yes sir.
Q. How large is the house?
A. It is a three-story house.
Q. How many rooms?
A. Two and a kitchen downstairs. Eight rooms upstairs in the second story, and my story and the kitchen.
Q. How many occupants?
A. I can't tell exactly. Herman Howes and his wife, and different parties live in there. Three families.
Q. Three families upstairs?
A. Yes sir.
Q. Where do they get water from?
A. They have a cistern.
Q. They don't take any water from your hydrant?
A. No sir; I don't filter no water for anybody.
Q. What have you got in connection with your bath establishment and barber shop? How many chairs?
315 A. Three chairs.
Q. Do you keep any water-closets?
A. No sir, there is a water-closet there, but no water going into it.
Q. When were your baths installed. When did you first put them up?
A. Six or seven years ago.
Q. They have not been changed since?
A. No sir.
Q. You mean they have not been changed since?
A. That's what I mean sir.
Q. Is it a public bath-room?
A. Yes sir.
Q. Cold or hot baths?
A. Cold or hot, any way you want them.
Q. Did I understand you to say that you had a filter of your own?
A. Yes sir.
Q. Is the water fit for use without the filter?
A. No sir.

CHARLES TEMPE, Esq., sworn for plaintiff, deposes and says

Direct examination by Mr. FORMAN:

Q. How long have you been in the fire department?
A. Twenty-six years sir.
Q. What have you to say as to the insufficiency of water to extinguish fires?

A. I couldn't say anything of my own accord; I have been connected with the hook & ladder companies.

Q. Have you made any observations as to whether there was a sufficient amount of water to put out fires, at the start?

A. No sir.

Q. Never made any observations?

A. No sir.

Q. Never noticed it?

A. Never noticed it on account of my connection with the hook & ladder companies.

No cross-examination.

316 JOHN KEAVENEY, Esq., sworn for plaintiff, deposes and says.

Direct examination by Mr. FORMAN:

Q. What is your employment, Mr. Keaveney?

A. I am a fire inspector.

Q. For whom?

A. For the Liverpool & London & Globe Insurance Company.

Q. How long have you been the fire inspector for different companies?

A. About nineteen years sir.

Q. Have you been attending fires all that time?

A. I have been to a great many of them.

Q. Have you ever attended any at which the water supply was insufficient—inadequate?

A. Well, yes, several of them.

Q. Can you name some of them?

By Mr. BECKWITH: Give us the dates if you can?

A. I couldn't give you the dates; I keep no record of dates.

By Mr. FORMAN: Well give us the fires—as many as you can remember now?

A. Well, there was one at Tchoupitoulas, right alongside of Natchez alley—J. C. Morris had a fire there. There was a well, I think on the upper side of Poydras near Tchoupitoulas street, somewhere in that neighborhood; there was two engines at that well, and after working there a short while, I recollect the engines there had to take their suction hose out of the well and put it in the gutter.

Q. Why?

A. Because there was not sufficient water in the well for them.

Q. Was that an extensive fire?

A. Well, yes; I think about one hundred thousand dollars loss, if not more.

Q. Can you recall any others?

A. Well, it is quite a while ago; I recollect those fires that
317 those gentlemen spoke of. I was at a fire down on St. Claude & Clouet, I think; there was some property there that I knew of that was in danger, and I had called the attention of the assistant

engineer to try and get a water line there; he asked me to go by Press street and see if there was any water in that vicinity; I turned open a plug there, and I suppose it would have taken three minutes to fill a bucket after turning it on full force. The property of one of the parties was Maxent.

Q. Were you at the cotton fire?

A. Yes sir.

Q. When was that?

A. Well, as near as I can recollect it happened on the third or fourth of April.

Q. When—what year?

A. Well, I don't recollect the year, but it was on a Sunday I know.

Q. Where?

A. In the Fireproof Press—in that neighborhood.

Q. Between what streets?

A. Around Terpsichore, I think.

Q. Tchoupitoulas and what?

—. It is a short street, I don't recollect. Anyway it is above Terpsichore.

Q. What was the extent of that fire?

A. It just burned right down to the Brooklyn cooperage.

Q. How many blocks?

A. About four blocks.

Q. Was there plenty cotton destroyed?

A. Yes sir, and some saloons and bar-rooms.

Q. What was the amount—the extent of the loss?

A. Well, I really don't recollect.

Q. Cotton presses full of cotton?

A. They were pretty well filled at that time,—the month of April.

Q. The cotton burned?

A. Yes sir, it burned pretty lively.

Q. What was the matter with the water?

A. Well, I wouldn't say there wasn't sufficient water there: there was too much wind at the fire there.

318 Q. What about the plug below there?

A. They had sufficient water when the fire got down as far as Thalia street. They had sufficient water there, but of course the fire department was large; they had their entire force there.

Q. The entire fire department was there—were you there?

A. Yes sir, I was there in the early stage of it, yes sir.

Q. Were you at the Magazine Street fire?

A. Yes sir.

Q. Along about Second or Third street wasn't it?

A. Yes sir, the corner of Second & Laurel; the property belonging to Valentine.

Q. How many blocks were destroyed there?

A. Between four and five.

Q. Well built up?

A. Yes sir, very thickly settled.

Q. What have you to say about the supply of water at that fire?

A. Well, when I got there, there were only one or two engines from the sixth district there; the water supply was very poor.

Q. Were you at the Schwartz fire on Canal & Bourbon street?

A. Yes sir.

Q. What about the water supply there?

A. Well, I couldn't say anything about the water supply there, simply because there was lots of water in the gutter, and we didn't care to take water out of the gutter.

Q. Why?

A. It causes the engines to foam. That is, the water in the boiler foams; there is usually much sediment in it.

Q. Did you make any observation as to the fires caused by electric wires in Audubon place, out along St. Charles street?

A. There were six or seven houses altogether on fire at the same time.

By Mr. BECKWITH: We believe that is since the institution of this suit.

By Mr. FORMAN: Do you remember the date when that fire occurred?

319 A. Which one?

Q. The fire at Audubon place?

A. Well, there were two fires there; there was one on the upper side, and one on the lower side. One on the lower side was caused by an electric wire, and the other was caused by a heater that was overheated.

Q. Well now, as to the time when there was five or six houses on fire at the time at once, what have you to say as to the supply of water at that time?

A. Well, I didn't get to that fire——

Counsel for defendant company objects to the question until the date of the fire is fixed.

By Mr. FORMAN: Do you know anything about the supply of water—whether it was sufficient for the earlier fire, the Rice house and Manson house on the upper side of Audubon place?

A. No, I do not; we are not connected with the fire-alarm down here, from up there.

Cross-examination by Mr. BECKWITH:

Q. If I remember correctly, the first fire that you identify in your testimony is the one which led to the destruction of the Morris establishment?

A. In that neighborhood.

Q. Well, was it that building?

A. That and others.

Q. Well now, as fire inspector, how much information are you expected to get, relative to the means of extinguishing fires—do you know anything about the means?

A. No sir. I haven't made that a study.

Q. Do you know whether the fire department availed itself of the mains in the vicinity of that fire, to the extent that it should?

A. I haven't anything to do with that.

Q. Do you know of the fire-wells in that vicinity?

A. I am pretty familiar with them.

320 Q. Well now, I went to that fire and I couldn't get across Gravier street because the street was overflowed with water; where did that water come from?

A. From the fire-well on Front and Fulton streets, or Poydras street out in front I think.

Q. How much water in your opinion per minute, should a fire-engine throw in the way of a fire?

A. I am not an engineer, and I couldn't answer that question.

Q. You are speaking of the insufficiency of water. Now, if there were five eight-inch nozzles delivered in the immediate vicinity of that fire, how much—how many engines would it take to handle that water?

A. What do you mean by "nozzles"?

Q. Don't you know that?

A. Yes, I know.

Q. Well, the wells are covered with an iron plate, and on that iron plate you *with* find a valve connecting an eight-inch pipe with the main; when the valve is opened, that discharges all the water that will come through that eight-inch opening, from the well; how many fire-engines would it take to take up that water?

A. Eight-inch main leading into this valve?

Q. There is an eight-inch service between the main and this well; when the valve is opened there is all the water that will flow through eight inches. Where there are two nozzles flowing into that well, how many fire-engines of the capacity of the engines belonging to the fire department would it take to handle that water?

A. Two engines ought to handle it.

Q. Well, how much water do you think would flow through an eight-inch nozzle?

A. That is beyond my knowledge sir.

Q. How much would an engine handle in a minute?

321 A. I couldn't answer that either.

Q. Hadn't you better say you don't know anything about it—as to how many engines it would take?

A. I speak of what I know.

Q. At the same time that the engines were pumping out of that well, the water overflowed into the street——

A. It came from that well—it came from the well in front where there were any.

Q. That is at what corner?

A. Corner Tchoupitoulas & Poydras.

Q. It is at the corner?

A. Possibly it might have been moved; that is where it was located.

Q. In 1892 when the fire took place—in what year?

A. No, I am speaking of two or three years ago.

Q. Well now, taking the fire—the cotton fire,—will you give us the boundaries of the streets—of the district burned by that fire?

A. Well, as near as I can recollect it started in the neighborhood of this short street I spoke of, one square above Terpsichore, and it burned right straight down—down to Thalia street.

Q. Between what streets?

A. Between South Peters, and it might be Front street.

Q. Do you know what mains—what water mains are in that district, and where they were located?

A. No, I do not.

Q. Do you know how many fire-engines of the capacity of the average engine used in the city of New Orleans, a twelve-inch main will supply?

A. Well, I have just told you I am not an engineer, and I couldn't answer that question.

322 Q. What, if anything have you had to do with the manipulation or operation of steam fire-engines at fires?

A. I have been in the volunteer fire department, and of course we ran steam-engines for awhile.

Q. Well, what steam fire-engine was it?

A. No. 5.

Q. Well, in what capacity were you attached to it?

A. Second assistant, acting foreman for a year.

Q. Well, did you have anything to do with that engine, besides giving the directions?

A. That's all; I didn't have the running of it.

Q. You talked to us about water that is taken out of the gutter, foaming; how do you know that? Did somebody tell you?

A. Well, that I know—that if you will put water that has sediments in it, such as grease and such as that into any boiler of any kind, or into an open pot, it will foam and come out through the pipe leading to the whistles and other portions of it.

Q. My dear sir, I have seen coal oil injected into boilers?

A. Yes sir, but there is a certain way of doing those things.

Q. Now where does the grease—how long would any grease in any boiler stand the rush from an eight-inch nozzle?

A. That I couldn't say; of course I am not an engineer.

Q. What other fires did you tell us at which you found the water insufficient?

A. Well, I wouldn't speak of any more because I would have to hunt up some record to refresh my memory.

Q. You know nothing of the size of the main in the locality of those fires?

A. No sir.

Q. And you can't give us the dates?

A. No more than I have told you.

Q. Now you spoke of a fire away up towards the sixth dis-

323 trict. Where was that?

A. Sixth district? No sir, down in the third district.
Q. Where was that?
A. On St. Claude and I think Clouet, or Montegut and Rampart.
Q. Will you tell us where that street hydrant was that you had that experience with?
A. On Press street. Press & Rampart.
Q. Was it at the corner?
A. A little off from the corner, about eight or ten feet from the corner, on the ground of the North-eastern railroad.
Q. Can you give us that date?
A. Well, no.
Q. Do you know whether any engines at that time—how many years ago was it?
A. I suppose about ten years ago.
Q. Do you know at the time you tried that hydrant whether there was any engine taking water from Rampart street, or from the main anywhere around there?
A. There may have been engines down on the corner of Dauphine & Montegut as the water main flowed in that way.
Q. You heard the engines didn't you—were they not working?
A. Some of them were leading out that way; they were there when I came in.
Q. If there was an eight-inch main there, you wouldn't expect any water out of such a plug, would you?
A. For a place like that eight-inch mains ought to be sufficient to supply two.
Q. You were utterly unable to tell us how much water will go through an eight-inch opening——
A. Of course you can drive an engine hard, or you can drive it easy. If there is a scarcity of water, you must put on a small nozzle.
324 Q. Let us ask you if you can guess how much one of those engines will throw on the fire when they run easy?
A. If I can guess?
Q. Yes.
A. No sir, I wouldn't like to guess.
Q. You wouldn't like to guess how much they would throw when not running easy would you?
A. I wouldn't guess that way either.

By Mr. FORMAN:

Q. Mr. Keaveney, have you any records of the fires you have attended?
A. No sir, I haven't kept the records.
Q. No memoranda of the fires you have attended?
A. No sir.
Q. Now you have stated that an eight-inch pipe would be exhausted by two engines. Why did you say that?
A. Well, simply because of you study the matter and measure the size of the suction and the discharge, of course you can guess at the thing.

Q. Well, as to your observation—why do you say that?

A. Just as I said; I was where there is a well on Tchoupitoulas & Poydras and there was two engines there, and they were not large class either—I think they were third-class engines; one of them anyway. One was engine No. 6, I remember that, and as I say No. 6 had to take its suction out of the well and put it in the gutter.

Q. Then you made the statement because you had seen two engines exhaust the water from an eight-inch pipe?

A. I didn't say the size of the pipe no sir; I didn't measure it, and of course I don't know anything about that.

Q. We will ascertain otherwise what the size was. You saw two engines exhaust the well at that place?

A. Yes sir.

Q. What was the place——

325 A. The gentleman who was captain of that company is dead. It was Captain McLaughlin.

Q. Well where was that place I said?

A. Tchoupitoulas & Poydras.

Q. Have you more than once seen two engines exhaust the water in a well?

A. Well, that's the only time I paid any attention, and it was only because they spoke of it among themselves, that I paid attention to it at that time.

By Mr. BECKWITH:

Q. Can you tell us the name of anybody connected with No. 6, that you remember, pumping that well, that you now speak of, and who is not dead?

A. Well, I don't know about that, I am not positive. I am not positive whether the present captain was then a lieutenant then or not, but I think he was, and if you wish I will give you his name.

Q. Let's have it if you remember?

A. I think that was the number; his name was George Bull, he is now captain of the company.

Q. How do you spell it?

A. B-u-l-l. He has been there for three or four years.

J. B. HARRIS Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?

A. I am manager of the Underwriters' Inspection Agency.

Q. How long have you been such?

A. Sixteen months.

Q. Have you ever made any test of the water pressure in the pipes for the purpose of extinguishing fires?

A. No sir.

Q. Have you ever had any made?

A. We had inspections made of the mains down at the cotton press.

Q. Who made the test?

326 A. Well, they made them by various inspections, and at various times.

Q. What are their names?

A. One of them is named J. M. Watkins. He is the present inspector.

Q. Who?

A. Watkins—J. M. Watkins.

Q. Well, has any other inspector made any test?

A. Well, not recently sir; we had an inspector who used to make the same test who is no longer connected with the bureau and who is no longer in the city; we had about eleven various men on hand to make them—sometimes one man and sometimes another; Mr. Watkins is the present inspector.

Q. How long has he been inspector?

A. This is his second season on that special work. He has been inspector I suppose, some four years.

Q. Have you a record of the result of those inspections?

A. We only give the pressure, each Saturday as the inspections are made.

Q. Have you got a record of that?

A. As I stated in reply to your question, we only put down the inspector's report each Saturday as to the condition of the pressure at different hours.

Q. You have a record of that?

A. Yes sir.

Q. Mr. Watkins is the man who made it?

A. Yes sir, they are made each week during the cotton season.

Q. His name is J. M. Watkins?

A. Yes sir.

Q. Where does he live?

A. He lives on Royal street; I forgot his number.

Q. And you never made any tests of the pressures yourself, at all?

A. No sir, not personally.

Q. Do you know anything about the adequacy of the water

327 supply for *for* the purpose of extinguishing fires?

A. Personally I do not sir.

By Mr. BECKWITH:

Q. Who furnishes your inspector with instruments to determine the water pressure, and what is the instrument used?

A. I think he uses an ordinary gauge sir,—a water gauge.

Q. Do you know whether it has been tested as to its correctness?

A. I do not.

Capt. DADY, sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?

A. Yes sir.

Q. How long sir?
A. About seven years and a half with the present department.
Q. Were you ever in the volunteer department?
A. Yes sir.
Q. How long?
A. Four years.
Q. Have you been down to fires in your capacity as such for about eleven years?
A. Yes sir.
Q. What have you to say as to the sufficiency of water for the extinguishing of fires?
A. I never made any record of it; we notice that at sometimes the water is hard to get; there is a small supply in some portions of the city.
Q. Can you name some cases in which this occurred?
A. Not particularly, no sir.
Q. Sir?
A. Not particularly, no sir. I am located in the downtown district. In large fires we go on the second alarm generally.
Q. What do you mean by "second alarm"?
A. Second alarm—I am with a truck company, not an engine company.
328 Q. Do you know of any fires in your district at which the supply of water has been deficient?
A. Yes sir, in a few downtown-district fires, sometimes we have no water at all; that is beyond the water mains, I presume.
Q. Can you name any fires in your district where there has been an insufficient supply?
A. No sir, I couldn't give dates or particular fires; it is a very common occurrence in the lower district, that we usually have to get supplies from wells, gardens &c. Sometimes we have to stand around and look at a house burn down, and put no water on.
Q. What engine are you connected with?
A. Hook & ladder No. 3.
Q. Have you got any hydrants there?
A. Yes sir.
Q. Well, what is the supply there?
A. Just one hydrant connected by a small pipe with a main on Dauphine street.
Q. How is the pressure?
A. At times it is good, and sometimes we have none at all—when they are taking up the streets and so on.

Cross-examination by Mr. BECKWITH:

Q. Those fires you refer to where you had to stand up and look at the buildings burn, was beyond the limit of the water distribution, was it not?
A. Usually, yes sir. We get water where there is a water main.
Q. Is it not true that in the last two or three years the city au-

thorities have thrown open the hydrants all around the city, and let the water run in the street?

A. We do that ourselves in case of fire.

Q. But when there is no fire?

A. Yes sir, but I don't know anything about that, but I find the plugs open, yes sir, but I don't know who opens them.

329 THOMAS MURPHY Esq., sworn by plaintiff, deposes and says

Direct examination by Mr. FORMAN:

Q. What is your occupation Mr. Murphy?

A. I am doing nothing at present. I was railroading here lately.

Q. Were you ever connected with the fire department?

A. Yes sir.

Q. How long?

A. Twenty-seven years about.

Q. Can you tell us of anything with regard to the supply of water for the purpose of extinguishing fires—in regard to its sufficiency

A. No sir, not much about it; I was driver of a hook & ladder company, and I never paid much attention to the water supply, only what I heard them say at fires.

Q. Did you ever attend any fires where the supply was insufficient?

A. Yes sir. One fire on Poydras & Tchoupitoulas, when I seen Captain McLaughlin come in and tell the men to take their suction out of the well; two engines were working there—No. 5 or 12, was working there, with No. 6.

Q. Why did he take out the hose?

A. The plug couldn't supply two engines I suppose. The main was too small for them. If the main had been larger it might have given a greater supply.

Q. At any rate, in that instance you say the supply was insufficient?

A. Yes sir, it was not sufficient.

Q. Was that a big fire?

A. Yes sir, pretty good fire.

Q. And property destroyed?

A. Yes sir.

Q. How much?

A. According to estimation in the paper——

Q. Any buildings destroyed?

A. Two buildings destroyed.

Q. Large buildings?

A. Yes sir, I think about four-story buildings if I am not mistaken.

330 Q. Now Mr. Murphy, can you recall any other fires at which the water supply was insufficient?

A. Yes sir, when we first went to the cotton-press fire, I was in with the paid department—the water was slow coming; I don't

know what the cause was; I got there on the first alarm, and was sent in to assist some steam-engine—No. 12, I think it was, and we had to stop two or three times, the water was coming too slow; they dispatched our men from the hook & ladder company around to help the men with the steamers, and at the third or second alarm, we were sent to assist No. 17 and I was with No. 17, at the pipe, and there was no water coming up to us at all in one hose there. We stood there about twenty or twenty-five minutes before any water came to our pipe; we stood on the gallery until water came, and when the water came, we went back into the building again.

Q. Can you recall any others?

A. Yes sir; another fire in the hay store on Poydras street—I don't remember the date; it was on a 4th of March night, I recall that, and I think it was in 1887, if I am not mistaken. The water was scarce there that night too. It was so scarce that the flames got the place and we had to move out or scorch. It scorched all the tin, and it came out on every door in the lower section of the building. I think it was Schreiber & Buhler who owned the feed store then; I think so anyway. The other fires were in the rear of the third ward. There was a Sunday fire there——

Q. Was there any scarcity of water there?

A. Yes sir.

Q. Can you recall any others now?

A. Well, not very well, for I never kept any note of it; we keep a record in the book in the pay department. Our captain kept the record. We just kept the record of the fire, and that is all.

331 I have been to a good many fires during that time—twenty-seven years, and seen a good deal of property destroyed, and sometimes we had no water, and at other times plenty.

Cross-examination by Mr. BECKWITH:

Q. You spoke of a fire occuring in the third district——

A. Third ward, sir.

Q. In the third ward—some lumber?

A. Yes sir, on a Sunday.

Q. Near the corner——

A. Yes sir.

Q. Was the water scarce in the canal?

A. No sir, but the engines on Girod street couldn't get to the basin.

Q. How long ago was that fire?

A. That was in 1886 or 1887.

Q. You didn't find any scarcity of water in the canal?

A. No sir, but the steamers couldn't get to the canal.

Q. Do you know what the distribution of the water mains was out there?

A. I couldn't tell you anything about the mains sir.

Q. And a fire by Laurel street?

A. Yes sir.

Q. Do you know whether there was any main there or not?
A. I couldn't tell you that.
Q. Is it always true that when a steamer reaches a fire, it has steam up?
A. That was the paid department, and then it was true, yes sir.
Q. They do better when they are paid, do they?
A. Yes sir, certainly.
Q. They hunt water better too when they are paid, don't they?
A. Yes sir—they are compelled to.
Q. You talked about the cotton-press fire—were you there?
A. Yes sir, I went up on the first alarm.
Q. Do you know anything about the mains up there?
A. I couldn't tell you about the mains in the city of New Orleans sir.
332 Q. You don't know whether they put too many engines on or not?
A. No sir, some wells can supply more than others can—according to the main you have—I think a twelve-inch main is just sufficient for one engine.
Q. You astonish me. Do you know the capacity of a pipe to carry water, now say of four-inch, and an eight-inch pipe—how much more will an eight-inch pipe carry than a four-inch pipe?
A. It ought to carry a great deal more.
Q. Well, there is a rule about it.
A. I know that, but I am not a practical engineer and I couldn't tell you. If I was a practical engineer I would be able to answer your question.
Q. What is a suction nozzle?
A. The suction is the thing that gets the water from the well.
Q. What is the size of it?
A. Sometimes an inch and a quarter, and an inch and a half on some engines.
Q. The suction?
A. Oh, the suction? Some as big as your hat; well about one inch and seven-eight-.
Q. One and seven-eighth- of an inch suction?
A. Yes sir.
Q. How long since you have seen one?
A. I see them every day sir.
Q. Do you say a fire-engine has a one and seven-eight- inch suction?
A. I say it may be that; I am not saying it is.
Q. Of course you are——
A. I know my hat is what they call a seven and a quarter, and my hat would fit over some of them, and that is a pretty big hat—and it won't go over some of them.
Q. The suction?
A. No sir, it was not.
Q. The outside or inside?
A. I mean the outside.

Q. But the interior size—do you know of one over five inches?
A. That may be; I never measured any of them, you know.
333 Q. Don't you think you had better take an engineer along with you when you want to measure them?
A. Yes sir, I believe in taking an engineer.

The hour of adjournment having arrived this cause was continued until Monday November 13th, A. D. 1899, at 11 o'clock a. m.

334 STATE OF LOUISIANA, *Parish of Orleans.*

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court before the Hon. Geo. H. Theard, judge, on the 13th day of November A. D. 1899, on behalf of plaintiff, reported by M. C. Le Jeune, stenographer.

ED. MAYER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?
A. I am in the crockery business.
Q. You use the water from the water works company?
A. Yes sir.
Q. How long have you used it?
A. Well as long as I can remember, the last thirty years.
Q. Do you use it both at your place of business, and at your residence?
A. Yes sir.
Q. What have you been paying at your residence—what are your facilities?
A. We have all the water we can possibly use.
Q. How many hydrants have you—how many openings, and do you use a meter?
A. Four openings.
Q. You have four faucets?
A. Yes sir.
Q. At the house?
A. Yes sir.
Q. You use a meter?
A. No sir.
Q. How much is your bill annually?
A. It is forty dollars now.
Q. How much has it been in the past?
A. Twenty-five dollars.

Q. Well, how long has it been twenty-five dollars, and how long has it been forty dollars?

335 A. Well it was twenty-five dollars until two years ago.

Q. Have you had any more openings from the time of the increase—did you add to the number of openings?

A. I believe one opening has been added.

Q. One additional opening?

A. Yes sir.

Q. Now have you a meter at your place of business?

A. No sir.

Q. How many openings have you there—facilities, I mean?

A. We have only one opening.

Q. What do you pay there?

A. Twenty-five dollars.

Q. How long have you been paying that?

A. For the past two or three years.

Q. And before that time?

A. Fifteen dollars.

Cross-examination by Mr. BECKWITH:

Q. What is the number of your residence—1069 Prytania street?

A. No sir, 1907.

Q. What is the old number?

A. The old number was 169.

Q. How many rooms have you there?

A. How many rooms—oh, about I suppose twelve or fifteen.

Q. How many hydrants on the premises?

A. We have one hydrant.

Q. And how many faucets?

A. Well, downstairs there are four faucets—in the yard.

Q. How many hose attachments?

A. Those include where the hose are attached to one, in order to water the garden.

Q. What is the size of your garden?

A. Well, the house, in the centre, occupies half a block.

Q. How many bath-tubs have you?

A. We have two bath-tubs.

Q. And how many closets?

A. Two.

Q. Two water-closets?

A. Yes sir.

Q. Haven't you got four?

A. Water-closets?

Q. Yes.

A. No sir, we have three.

336 Q. Haven't you got four?

A. Water-closets? No sir, we haven't got four—three, that I am positive of.

Q. Didn't you report four in your application for water?
A. Water-closets?
Q. Yes.
A. We haven't got them.
Q. I thought you said you had three?
A. Three, yes sir.
Q. How many kitchen-range connections have you?
A. There are two—one in the kitchen and one in the wash-room, or I suppose the room they use for washing dishes.
Q. Any kitchen range?
A. Well, that includes the one in the kitchen.
Q. Sink in kitchen?
A. That's the one I report.
Q. Any slop sink?
A. We have nothing like that.
Q. Haven't you got two sinks?
A. No sir, only one.
Q. Any wash-basin connection?
A. Well, two—three.
Q. Will you look at that application for water and say if that is your signature (showing witness document)?
A. No sir, not my signature, but whatever it is, it is all right.
Q. Well, whose signature is it?
A. It is the signature of one of my employees in my store.
Q. He signed for you?
A. Yes sir; we got two baths, that's correct.
Q. Did you sign that paper?
A. I did not sign that paper, but it is signed correctly by one of the men in my employ.
Q. Now where is your store?
A. On Common street—526 Common.
Q. How many rooms there?
A. It is a store—four floors.
Q. How many adult persons have you about your store—and servants?
A. About eighteen.
Q. What do you say you paid for your water?
A. Fifteen dollars—I beg to correct the number of faucets in the store; there is one upstairs—one opening upstairs.
Q. How many wash-basins?
A. In the store?
Q. Yes.
A. There is only two.
337 Q. How much in the way of water—have you water-closets there?
A. Yes sir, we have a water-closet there.
Q. That was your bill for 1898—I mean for 1899; were your premises changed any since 1898, either the house or the store?
A. No sir.

Counsel for defendant company offers in evidence written con-

tract which has been identified by the witness, in connection with his deposition on the cross-examination, marked "Mayer 1."

VIC. YOUNG, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Confectioner and baker, sir.
Q. Your place is opposite the Poydras market?
A. Yes sir.
Q. Do you use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. For what years have you used it?
A. Well, since I have been part of the firm—five years now. The water to my knowledge has been used for the last twenty-two years there.
Q. What are the facilities—how many openings or faucets have you?
A. All told, there are three.
Q. Have you a meter?
A. No sir.
Q. Did you ever apply for one?
A. No sir.
Q. What has been the yearly rates paid?
A. Well, dating how far back—since I have been a member of the firm?
Q. As far as you have any knowledge.
A. Well, I knew of my father; I know of him having paid sixty dollars there. I paid fifty dollars myself, and now I pay forty dollars.
Q. During that time, were the facilities changed, or have you the same number of openings?
A. Well, the only change made there in the last twenty years was an addition of one faucet on the second floor, making three all told.
338 Q. When was that made, that additional opening?
A. About eight years ago.
Q. Well, was there—was there an increase in the price or a decrease since that time?
A. Well, for two or three years after that it was the same price, and then it was reduced from fifty to forty dollars.

Cross-examination by Mr. BECKWITH:

Q. Who made application to the water works company for this water?
A. I never have made an application sir. I just simply changed the name of the firm.
Q. What was the original name of the firm?

A. M. Young—that is my father; he has been there for twenty-two years.

Q. And now it is the same?

A. No sir; Vic. Young & Co., now.

Q. How many rooms?

A. There are eleven all told, in the building.

Q. Are there a number of families occupying the building?

A. There is only one family there in the building.

Q. There has never been two?

A. There has been two, yes sir—some time back.

Q. When did there cease to be two?

A. About five years ago.

Q. How many adult persons including servants are there?

A. There are twelve altogether—thirteen.

Q. How many hydrants on the premises?

A. Three hydrants.

Q. And slop sinks?

A. Yes sir, one upstairs.

Q. How many horses or cows do you keep on the premises?

A. One horse sir.

Q. Now you operate a bakery; how many barrels of flour do you use up?

A. About five barrels a day.

Q. How long have you averaged five barrels a day?

A. Well, about five years—about that time.

Q. Will you look at this document I now hand you, and state
339 whether you or some one of your firm made that affidavit? (Showing witness document.)

A. Yes sir; it is the signature of the firm.

Q. Who swore to that—you?

A. I signed it.

Counsel for defendant company offers in evidence the affidavit identified by the witness, marked "Young 1."

Col. Wm. H. Byrnes, sworn for plaintiff, deposes and says:

Direct examination by Mr. Forman:

Q. Colonel, you are president of the Hibernia Insurance Company?

A. Yes sir.

Q. What is your connection with the board of underwriters?

A. I am president of the local board of underwriters.

Q. For the local board?

A. Yes sir.

Q. What has been your observation as to the sufficiency of the supply of water for the extinguishing of fires?

A. Well, I have visited two or three fires—one particularly at the corner of Tchoupitoulas & Natchez, J. C. Morris' place. There was a great scarcity of water on that street; it burned down without the fire department being able to put any water on the fire. Likewise,

the building across the street; there was a great deficiency of water; that was the building belonging to Mr. Henderson. That is a few years ago. And at that Schwartz fire, on Canal street also, there was a deficiency of water, and there was a deficiency at the Gauche fire.

Q. Where was that fire?

A. At the corner of Camp & Poydras streets; that is, for the start. Of course after awhile, about ten minutes or so, there was a good supply of water.

Q. Now, first taking the Morris fire, how long was it before
340 they could get water on the fire?

A. Well, that building actually burned down without a sufficiency of water being put on it.

Q. Were you watching it?

A. Yes sir, I was watching it from the time it started almost, until it burnt up.

Q. Can you recall any other fires at which there was a deficiency of water supply?

A. Well, so far back that I—the McCracken & Brewster fire on the other side of Canal street. I saw there engines having to abandon some of the plugs in consequence of not getting water from them.

Q. Are you aware of any regions of built-up portions of the city where there are no water mains at all?

A. Yes sir, in the upper section of the city, there the facilities are not good. No mains in some of those sections.

Q. What is the effect of the deficiency of the water supply on insurance rates?

Counsel for defendant company object to the question as irrelevant.

By the COURT: I am inclined to overrule the objection.

To which ruling of the court counsel for defendant company except and reserve a bill of exceptions. And counsel for the board of liquidation herein joins in said exception and reservation.

By Mr. FORMAN:

Q. You can answer the question?

A. Yes sir; it has an effect as to the rating of property in the vicinity of where there are no water facilities.

Q. What is the effect?

A. Raising the rate—increasing the rate.

341 Q. When the river is high, and the water muddy, what is the quality of the water delivered at houses?

A. Well, it is bad.

Q. Is it fit to drink without filtering?

A. No sir, it is not fit to drink without filtering.

Q. Do you use the water of the New Orleans Water Works Company?

A. Yes sir.

Q. At your residence?

A. Yes sir.

Q. What facilities have you—how many openings or faucets?
A. I couldn't tell—a good many through the house.
Q. You don't remember how many?
A. No sir; let me see; I have water pretty much in every room in the house—two bath-tubs, water-closets——
Q. How many water-closets?
A. Two.
Q. All supplied by river water?
A. Yes sir—that is, we have the facilities for supplying them whenever we want it.
Q. How many, altogether—can you count them up?
A. Let me see; I have a good many, and I know I have about twelve or fifteen. I am not positive.
Q. Have you a meter?
A. No sir.
Q. How much are your water rates a year?
A. Forty dollars.
Q. How long have you paid that rate?
A. Three or four years.
Q. And previous to that, what was it?
A. Twenty-five dollars.
Q. Is there anything else you know in connection with this investigation, that I have not questioned you about?
A. No sir, that's about all.

Cross-examination by Mr. BECKWITH:

Q. How long have you been connected with insurance in this State?
A. About eleven years.
Q. Was your business, insurance, prior to that date?
A. No sir.
Q. What was it?
A. I was in the mercantile business; I was a clerk at one time.
342 Q. What, if anything, do you know of steam hydraulics and hydrostatics?
A. Nothing whatever, sir.
Q. How much—how long a time does it take to get up steam on a steam fire-engine, with the character of boilers that they have in this town?
A. There are some I think that have steam sufficient to operate whenever they get to a fire.
Q. Do you know how many engines were at the Morris fire?
A. No sir; I saw a great many.
Q. Do you know how many?
A. No sir, I do not.
Q. You had no curiosity to count them?
A. No sir.
Q. Do you know how much water it takes to supply one of those hydrant engines in the city of New Orleans—how many gallons of water they require a minute?

A. No sir, I do not.

Q. Do you know how many gallons of water a minute it requires to supply the force of engines that were at the Morris fire?

A. At the Morris fire—no sir, I do not.

Q. Do you know whether they had steam up when they got there?

A. Yes sir, I do.

Q. All of them?

A. No sir, I couldn't say all.

Q. How many of the steam fire-engines in this town had hydrant appliances at that time?

A. Well, I couldn't say; only four or five, I suppose.

Q. How do you know that?

A. I have heard of the fact.

Q. But of your own knowledge?

A. Of course, I couldn't say.

Q. Don't you know that there was litigation, or that there had been litigation for the use of hydrant appliances on steam fire-engines, which led to the stopping of the use of them, or additional attachment of them to engines?

343 A. No sir, I do not.

Q. Well, as an insurance matter it was of interest to you, wasn't it? As an insurance man?

A. Yes sir, but there are a great many things and matters of interest that we don't take much interest in.

Q. How much less than the water that the engine force at the Morris fire, could have thrown, was there that night?

A. Well, I was standing there and I was a close observer, and there was not, at any time, from the time it took fire, until it burned, three streams of water that was sufficient, to go into the second story, at that time.

Q. I happened to be at that fire myself, and I couldn't see any place where anybody could begin to have any view of the engines there; how did you see them?

A. I was standing across the street when the fire broke out. I was one of the first that helped to break in the door.

Q. Now before the roof——

A. Before that, I was standing directly before the fire.

Q. Before the roof of the Morris building fell in, I couldn't cross Gravier street it was so flooded, and I wasn't down directly opposite the fire, at least the Morris McGraw building—where did all that water come from; millions of gallons were running?

A. I don't know.

Q. Do you know anything about the facilities there that the steam-engines could have enjoyed if they had attempted to?

A. Certainly they would have been able—that fire was burning quite a while before there was danger of the wall falling in, and if they had had sufficient facilities at that time, they could have prevented that fire from extending as it had already, and could

344 likewise have prevented that building from being entirely consumed.

Q. Did you supervise the extinguishing of fires yourself?

A. No sir.

Q. Did you know sir, that there was two wells on a thirty-inch main, within a block and a half from there, with eight-inch plugs to them?

A. No sir, I didn't know what the capacity of the supply was.

Q. But the fire department knew?

A. I think so.

Q. Well now, the insurance rate being so much affected by reason of the facilities for supplying water, how does it happen you don't know of the existence of the fire-wells in that vicinity?

A. I know there are fire-wells there.

Q. Where at?

A. On Poydras street; three or four there. Those were opened at that time I suppose.

Q. Is that all you know of the fire-wells in that vicinity?

A. Yes sir, I am not posted as to the location of the fire-wells.

Q. You didn't know that there were two other large wells between there and the river?

A. On Poydras street?

Q. No, between the street that the Morris store is on and the river?

A. No sir; I know there are fire-wells there.

Q. Do you think that ten fire departments, having the number of engines that you saw there, could handle all the water that could come from all those wells?

A. I don't understand the question.

Q. (Repeat the question, Mr. Stenographer.) Question repeated.

A. Ten fire departments? Well, I, simply know this; that the fire department up at that building—the building was almost consumed. For some reason they didn't get the water on that fire.

Q. How do you know that it wasn't the fault of the fire department?

A. I made the inquiry from the firemen.

345 Q. Then that is hearsay?

A. They stated there was no water there.

Q. Did you also make inquiry then or afterwards of the water works company?

A. No sir, I did not.

Q. It was a one-sided inquiry. Well now, you spoke of the Schwartz fire. What do you say about the fire there?

A. There was a scarcity of water there for a while, yes sir.

Q. How long?

A. I couldn't really state that; it is so many years ago.

Q. Don't you say there was a scarcity of water because you didn't see it being thrown by the engines on the fire? Is that what you mean?

A. Yes sir; it was quite a while before they had water.

Q. How many engines did they have there on Canal street?

A. There was a good many there.

Q. Do you know what that fire-well connects with there?
A. No sir, I do not.
Q. Well, connecting with the sixteen-inch main, it would be apt to leak wouldn't it, if they opened the valve?
A. I don't know.
Q. You know when the valve was opened?
A. No sir.
Q. Now, at that time I happened to be along at the corner near Rampart street, and the water overflowed the sidewalk almost?
A. There was plenty of water after the fire was under way.
Q. Wasn't it a fact, that that fire was so hot they couldn't get near it?
A. That was after it got under way, yes sir.
Q. How long was it getting under way?
A. Oh, I suppose possibly half an hour.
Q. It was under way about that time when you moved from
346 there?—possibly not so long as twenty-five minutes, and they had old walls there on that building?
A. Yes sir.
Q. The firemen were keeping away from the danger of the walls falling on them?
A. That I couldn't say.
Q. Wasn't that known to be a shell building, with a pine forest inside?
A. I don't think it was considered a very safe building.
Q. Now what other fires did you mention—the fire at the corner of Natchez alley?
A. Yes sir. A cork factory there.
Q. Well, what time did that occur?
A. I think it occurred about eight o'clock.
Q. I mean the month and the year?
A. That occurred in December of 1897.
Q. December 1897? What fire-wells were there in that vicinity?
A. About the same facilities for putting out fires that they had at the Morris fire.
Q. Well, you didn't tell me how many millions of gallons of water you think ought to be available for putting out a fire?
A. I haven't the remotest idea.
Q. Well, were you ever at a fire when the wells were opened, and the water running in the gutters, when the engines took up any considerable portion of it?
A. Yes sir.
Q. Where was it?
A. On Poydras street, I think. The fire was on Tchoupitoulas between Poydras and Lafayette.
Q. The corner building?
A. No sir, the building next to it, I think. There they took up a great deal of water—I think the majority of the water came from the gutters.

Q. Is not that the same one that figured in the investiga-
347 tion by Mayor Shakespeare?

A. No sir, I don't know anything of an investigation by Mayor Shakespeare.

Q. Well, taking the building, the size of the Morris building, can you approximate how many millions of gallons of water ought to be averaged to extinguish it?

A. No sir, I haven't the remotest idea.

Q. Now you say that uptown there are no mains; what do you mean by that?

A. I say there are certain sections of the uptown district where there is no river water to fly; no facilities.

Q. Where are they; where are those districts?

A. Towards the Exposition grounds—up in that neighborhood. No facilities there or mains on the streets.

Q. None on St. Charles street up there?

A. There are; I think so.

Q. What?

A. I think there are some fire mains and plugs on St. Charles street.

Q. How far up?

A. I couldn't tell you.

Q. You don't know much about the districts that are not traversed by pipe do you?

A. If you want it, I can get it for you.

Q. I mean of your own knowledge?

A. We figure on those maps when we want to ascertain the rating of anything; we have maps showing where the water is supplied from—where the water mains are. *A.* They are supplied here by Stanford; they are the Stanford maps.

Q. How old are they?

A. They are corrected every year sir.

Q. You never applied to the water works?

A. No sir, we never applied to them; they are Sanford's maps, not Stanford's.

By Mr. FORMAN:

Q. Colonel, can you furnish us with that map?

A. Yes sir.

348 Q. We would be obliged to you if you will bring it down and identify it. That's all for the present.

Dr. HENRY BEZOU, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Doctor, do you use the hydrant water of the water works company?

A. I do sir.

Q. How long have you used it sir?

A. I suppose twenty or twenty-five years.

Q. What are your facilities—how many openings have you?
A. I have three faucets.
Q. How much have you been paying annually?
A. Different prices at different times.
Q. State them please?
A. I was made to pay at the time I had a horse and buggy, twenty dollars, and when I had sold the buggy and still had the horse, I was still paying twenty dollars.
Q. Twenty dollars a year?
A. Yes sir.
Q. I notice that the receipts you hand me, range from twelve dollars to twenty dollars; did you have the same water facilities all the time?
A. Yes sir.
Q. Except that you sold the horse and still paid twenty dollars?
A. Yes sir. And I am now paying fourteen dollars.

Counsel for plaintiff offers in evidence the fifteen receipts produced by the witness.

Counsel for defendant states that one bill is for October 1st. 1899, which is subsequent to this investigation, and should not be admitted in evidence.

Counsel for plaintiff states that it should be admitted for the purpose of comparison.

By the COURT: I have already ruled sustaining the objection to evidence of that character.

349 By Mr. FORMAN:

Q. Doctor, is this water fit to drink without filtering it?
A. No sir.
Q. Have you a filter?
A. I have.
Q. How does it affect the filter?
A. It wears out the stone in the course of time. It is a job to get it clean.

Cross-examination by Mr. BECKWITH:

Q. Where did you reside during the period covering these receipts?
A. At one time way out on Dumaine street between Roman & Prieur, and then on Prieur street, and then in my own property where I have been, No. 836 N. Rampart street for twenty years, I think.
Q. At what time did you dispose of your horse?
A. That I couldn't tell you—several years ago.
Q. On your Rampart Street premises, how many stories in your house?
A. Two stories.
Q. How many rooms?
A. Twelve or thirteen I suppose.

Q. Number of families—how many families?
A. Seven, all told.
Q. Seven families?
A. Seven persons in my family—one family.
Q. Well, what openings have you got?
A. In the line of water works?
Q. Yes, connected with the water works?
A. I have one on the back gallery where I have a sink to use water there, and I have a bath and a hydrant in the yard. I have another one in my back office which I never use—can't use.
Q. Why not?
A. It is too muddy.
Q. Are there occasions and times when muddy water is better than none?
A. I never use it in the office.
Q. Well it is not because you can't use it if you want to?
A. I could yes, if I wanted to, but I have no use for it.
Q. The connections exist, don't they?
350 A. Yes, sir.
Q. How many sinks have you?
A. One on the back gallery.
Q. Doctor, how many generations of people do you suppose have come and gone since the city of New Orleans was founded?

Counsel for plaintiff objects to the question as out of place and irrelevant.

Counsel for defendant company wishes to show that probably twenty generations have used the water, and probably more, and have lived.

Counsel for plaintiff states that as the witness did not live during that time, he can't testify from his own personal knowledge.

A. I never kept any statistics, sir.

By Mr. BECKWITH:

Q. Well, you would be willing to say that a great many have, wouldn't you?
A. No doubt.
Q. How did those generations manage to live on Mississippi River water?
A. Indeed, I cannot conceive.
Q. In your opinion they certainly could not have been a fastidious generation to have drank it, when you say that it cannot be used as a beverage—that it is impossible to drink it?
A. No, sir; I don't mean to insinuate that at all, but in order to make it wholesome and palatable I think it should be filtered. At times it is quite clear and can be drank.
Q. It is a matter of degree, I know; some people think water is not wholesome without whiskey in it; they keep off malaria in that way. Now what I understand you is, that you don't like to drink it in the way it comes from the river?

A. No, because I have not only to drink it, but to eat at the same time.

Q. Well, can you tell us the nearest you can, approxi-
351 mately, when you parted company with your horse—sold him out?

A. When it was?

Q. When you sold your horse; when you got rid of it?

A. That I couldn't possibly tell you; my memory fails me there sure, but you can be guided by the receipts, when I was paying at the time $20.00 when I had the horse and buggy; but one, or two or three years thereafter I paid the same price, though I had no horse and no buggy.

Q. Did you report the same openings?

A. Yes sir, the house was inspected.

Q. But didn't you change the plumbing in your house?

A. No sir.

ROB'T B. PARKER, Esq., sworn for plaintiff, deposes and says.

Direct examination by Mr. FORMAN:

Q. What is your business Mr. Parker?

A. I am in the wholesale grocery business.

Q. Where is your place of business?

A. South Peters & Common.

Q. Do you use the hydrant water of the N. O. Water Works Company?

A. No sir.

Q. Sir?

A. No sir.

Q. Not in your store at all?

A. No sir.

Q. Do you use it at your house?

A. Yes sir.

Q. What are your facilities at your house?

A. I don't know what the number of openings is, because it stood in the name of A. H. May until this year—that is, they made the bill out in my name, as I am the executor of him. I don't know what the prices are exactly.

Q. You don't know the number of openings in your house?

A. No sir, I do not.

Q. What are the rates you have been paying for several years past?

A. I don't know—forty-five dollars for this year. I have
352 nothing to do with the payments of the bills, for they didn't come under my name.

Q. Who paid them?

A. Mr. A. H. May.

No cross-examination.

Dr. C. EDMUND KELLS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Your office is in the Medical building?
A. Yes sir.
Q. You reside in Audubon place?
A. No. 9.
Q. Audubon place is opposite Audubon park, above Tulane university?
A. Yes sir, just above Tulane university.
Q. Have you been using the water of the N. O. Water Works Company?
A. Yes sir.
Q. At your house and at the Medical building?
A. Yes sir.
Q. What have you to say sir as to the pressure?
A. Out at my home?
Q. Yes sir.
A. For the past two years I have reported to the water works company that at certain hours, during the time from nine to three, we couldn't get enough water at the height of fourteen feet above the ground; at certain months in the year and certain time in the day.
Q. What have you to say as to the pressure at the Medical building?
A. Well, at the Medical building, the water was originally supplied by a tank on the roof. At the Medical building the tank is probably seventy feet high, but the pressure would not always fill that tank. They have a pump now and have an ample supply.
Q. The tank is built with a pump?
A. Yes sir; of course I don't have anything to do with the water supply except when I have no supply.
Q. For the purpose of drinking, what have you to say of the quality of water furnished by the water works company?
353 A. It is all right for those who like it; we never drink it.
Q. Is it drinkable without being filtered?
A. I think so, yes. I think the water could be—I think a man could drink it and live, but I don't think it is palatable, and not as good as water, without that sediment in it.
Q. You are a dentist, I believe?
A. Yes sir.
Q. Do you know anything about the deficiency of the supply for the extinguishment of fires?
A. At the fire in Audubon place at which two houses were consumed——
By Mr. BECKWITH: That is subsequent to the institution of the suit.
By the COURT: I think the evidence is objectionable.

By the WITNESS:

A. No fires prior to that in Audubon place.

By Mr. FORMAN: What are your facilities at your house—how many openings?

A. Well, up to within the last four months we had a running supply of three closets and one sink. During the summer I put in a filter, and the reason that we only had this supply was, that I considered it unfit to use without filtering, and we used rain water. And now I have three closets and a sink that we had before, and I have added a bath and three washstands; we have in all about twelve openings.

Q. What are your rates?

A. The rate for 1898 was thirty-eight dollars. At that time I had three closets and a sink and a lawn supply; for 1897 it was thirty dollars.

Q. What did you have then?

A. Well, we built our house in 1896, and in 1897 we only had a portion of those openings. But I am not familiar with that. I know the rate was raised in 1898, eight dollars. We have a
354 family of three; in considering the rates, that is to be considered.

Cross-examination by Mr. BECKWITH:

Q. How long has the water main been up at Audubon park or Audubon place?

A. It was put in when the place was built—that is when the grounds were laid out, the water and gas was put in; that was in 1895 or 1896, somewhere along there.

Q. The main in Audubon place is the common property of the Audubon owners is it not, the owners of the buildings there?

A. I think not. I think the projectors had to guarantee ten per cent. on the cost of laying the mains, because the projectors couldn't sell their property without water and gas distributed. I think the main belongs to the water works company.

Q. Do you know whether their supply comes off the St. Charles Street main?

A. I don't know it by observation. I didn't see them make that connection, but I would be willing to say that it does.

Q. Do you know the size of that main there on St. Charles St.?

A. I don't know; I didn't see it. I am told it is eight inches.

Q. Do you know the size of the main that leads into Audubon place?

A. I think it is three or four inches.

Q. How many buildings are taking water from it as near as you know—how many houses?

A. Three; there might be three and maybe only two; I know of two; Mr. Wilcox has just purchased a house there, but I don't know whether he has connected with the main or not.

Q. Are there not seven houses taking that water?

A. Yes sir—three on the opposite side.

Q. I ask you in Audubon place how many of those houses are connected with the dead-end main that runs in there?

A. I am under the impression that there are two mains
355 running in there, one on each side. The ones I speak of are taking water on the lower side. I think the main only supplies that side, and I think there is a three or four inch main on the opposite side from which our opposite neighbors take water. I think that is the wat.

Q. Well, now you think there are three or four taking water on each side?

A. I think there are five on both sides.

Q. Making ten, taking off the St. Charles Street main, if those side mains get their supply from there?

A. No sir, only seven houses there; there are three or four on our side, or two or three on the other—eight houses there.

Q. Can you remember the dates or the month when you found a low pressure there?

A. No sir, I couldn't tell you the dates or the month; all I can tell you is that we didn't have it, and I applied to the company, and I think Mr. Gardner advised the putting in of a tank.

Q. Wasn't it in the summer time?

A. It was in the early summer, yes sir. They told us that the water plugs were open on the street and accounted for our not getting water.

Q. The city was opening the plugs all around there?

A. I don't know.

Q. Well the plugs were open were they not?

A. Yes sir.

Q. Well, assuming that the St. Charles Street main is a twelve-inch main——

A. Is it a twelve-inch main?

Q. I say, assuming it to be a twelve-inch main, and the fire-plugs about two and a half inch interior diameter, about how many plugs would it take to take the water out of the twelve-inch main?

A. I can't say that; I am a dentist not an engineer.

Q. You never figured on that?

A. No sir. If there was no pressure it would not raise.

356 Q. But under all kinds of pressure, enough hydrants will take off all the water?

A. I am only giving you what I know.

Q. At the time you made the complaint of low pressure, there was gutter-flushing in that neighborhood was there not?

A. I am going to depend upon my recollection; I think I made that complaint in October 1898—within the past six months, and the inspector came to see me, and he told me he was *prying* to try and keep those plugs closed, but somehow some one was opening them all the time.

By Mr. FORMAN:

Q. It is dry weather that you want water is it not?

A. Yes sir, we don't want it in wet weather.

Q. If you had plenty of rain you would want the hydrant water?

A. Not if I had plenty of rain. We could use it for bathing purposes.

SIDNEY STORY Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Story, where do you live?
A. 1309 Esplanade street.
Q. You have lived in New Orleans all your life?
A. A great portion of it, yes sir.
Q. Do you use the water of the N. O. Water Works Company?
A. No sir.
Q. You never have used it?
A. No sir.
Q. Do you know of any streets that are not supplied with water for the extinguishment of fires, and that are built up?
A. I know of some streets, yes sir.
Q. Can you tell us how extensive they are?
A. Well, my knowledge is based from the report which is furnished by the city engineer, which I believe forms part of the testimony.

357 By Mr. BECKWITH: Well never mind if you don't know of your own knowledge; it is hearsay of the worst kind, and I object to it.

By Mr. FORMAN. Do you know of your own knowledge of any built-up streets that have no water supply?
A. Yes, sir, I know of one street, Robertson street—North Robertson street.
Q. Do you know Mr. Story about whether the water furnished by the New Orleans Water Works Company is fit to drink when the river is high?
A. Well I don't think it is very palatable water.
Q. Do you know how many sewers empty into the Mississippi river in front of New Orleans?

Counsel for defendant company objects to the question as being in the nature of a new issue.
By Mr. FORMAN: We wish to prove the impurity of the water.
By the COURT: If that is not an issue raised by the plaintiff, the testimony will not go in. I am inclined to think that the testimony is admissible under the allegations of the petition.
Counsel for defendant company except to the ruling of the court, and reserve this note in lieu of a bill of exceptions. Being joined therein by counsel for the board of liquidation.

(By the WITNESS:)

A. I don't know.
Q. Do you know of any?
A. I heard there was some.

Q. You don't know of your own observation?
A. No sir.

Cross-examination by Mr. BECKWITH:

Q. You say there is no water on North Robertson street; do you mean no main there?
A. No main.
Q. Has there ever been one to your knowledge?
A. Not to my knowledge.
358 Q. Were you living in the city in 1878?
A. Yes sir.
Q. In 1877?
A. Yes sir.
Q. Was there a main on that street at that time?
A. I couldn't say.
Q. It was at that time outside of the line of the pipes and mains?
A. That I don't know.
Q. That particular street was?
A. I am referring to the block in which I lived but recently.
Q. What part of Robertson street did you live on?
A. Within about a month ago, on North Robertson between Esplanade & Kerlerec.
Q. Down there--there is a main down there on Esplanade street?
A. Yes sir.
Q. Within a half block of you?
A. Yes sir.
Q. You mean to be understood that from there up to Canal street there never was a main?
A. I am speaking of that one block.
Q. You don't know whether there is a main on Robertson street between your block and Canal street, or not?
A. I do not.

JAMES BUCKLEY Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a stationer?
A. Yes sir.
Q. Carrying on a printing press?
A. Yes sir.
Q. You use the water of the New Orleans Water Works Company?
A. Yes sir, I use it both at the store and at the house. I want to tell you that so you will know how to question me.
Q. Have you a meter at either place?
A. No sir, I had a meter previous to February last at the store.
Q. How long did you have the meter?
A. I had it since—I think it was 1892.
359 Q. Have you your receipts there?
A. I have the receipts from 1892 up—from 1892 to 1899.

Q. From 1892 to 1899?
A. Yes sir, to February 1899, at the store.
Q. They were all given under the meter?
A. Yes sir; I have the receipts from—the receipts for bills paid and filed away, and it was difficult for me to get at them; I would have to refer to my books to give the amount paid previous to that time.

Counsel for plaintiff offers in evidence the thirty-four (34) receipts produced by the witness.

Q. Mr. Buckley what is your facilities—the number of openings at the house?
A. I have about eleven at the house where I can get river water.
Q. For the last seven years what have you paid per year?
A. The rate has varied since I built the house in 1891, up to 1898. When I first built the house I didn't have as many openings as afterwards, and the rates were increased according to the new openings in the house.
Q. How many did you have at first?
A. About six.
Q. What was your rate then?
A. About twenty-four dollars.
Q. And how many openings did you increase it to?
A. I suppose about six.
Q. Six more?
A. Yes sir.
Q. And what is your rate now?
A. It is thirty-five dollars now.
Q. It has been thirty-five dollars ever since you increased the openings?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. You started to make an explanation about the change of the meter rate; give it to us?
A. I would like to state, in order to explain those bills of
360 1892, that the water works company inspector called at the store and went into the bookbindery and there he discovered one of the faucets running; that was reported to the office of the company, and I was notified that my rate would be increased. I called at the office and notified Col. Gardner, that while undoubtedly the inspector did find a leak there at that time, he might go there a thousand times again and not find it running. I found it impossible to control the boys in the bindery office in regard to the faucet; if I asked them to turn a little water they turned off too much, and if I asked them to turn off a great deal they turned only a little. So Col. Gardner suggested to me that I should get a meter. I sent and got a meter, and had it put in, and my bills after that were much smaller; but the inspector at various times discovered that

the meter didn't register entirely right and he suggested at the time, I think, that the pressure was not sufficient to turn the meter. About two or three years from the time I took the meter, it was taken out and a new one put in, and that meter didn't register right. Then the inspector put — a meter—brought a meter to the store and removed the other one, and attached the water-works meter, and found a difference of about thirty-three per cent. in the registration of the water. At the first inspection made of the meter I was not present, and I told him I thought it was necessary that I should be there when the inspection was made. He reported after that, and brought a man back to the store, and I saw the meter tested, but that meter didn't register the amount of water according to the meter of the water works company that I was using. He informed me that he would have to charge me a little more for the water because the amount of water used in the store was very slight, and that the sand got in the meter and it didn't register properly, and that probably accounted for the difference in the bills.

361 Q. How many openings did you have in the store, and what did you use them for?

A. I had two on each floor Judge—two on the lower floor—two in the printing office and two in the bindery department.

Q. Did you use any water for steam?

A. No sir.

Q. You didn't use water for steam?

A. No sir.

Q. You used it in the urinal?

A. Yes sir.

Q. In the water-closets?

A. Yes sir; I used it in one water-closet, yes sir. I had three openings downstairs and four upstairs—that is, seven.

By Mr. FORMAN:

Q. What meter did you get?

A. I got—the second meter brought to the store was from the water works company.

Q. And the first?

A. The first I bought from the N. O. Railway & Mill Supply Co.

Q. Did you go there and get the meter at the direction of the water works company?

A. No sir; I got the meter where I found one; no particular meter did they instruct me to get.

Q. They didn't instruct you to get any particular meter?

A. No sir.

Q. Any meter that you could find, was it?

A. Well, I think they mentioned the name of a good firm that manufactured meters, for I afterwards corresponded with that firm in regard to the meter.

GEO. A. TRAUTH, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

—. What is your business?
A. I keep a saloon.
Q. Where?
A. 1518 Dryades street.
Q. Do you use the water of the water works company?
A. Yes sir.
362 Q. How long have you done so?
A. Since 1886.
Q. What are your openings—do you have a meter?
A. No sir.
Q. What are your openings or facilities?
A. I have a hydrant in the yard, a sink, and a pump for the beer.
Q. How much do you pay a year?
A. $30.00.
Q. What?
A. Thirty dollars.
Q. Has it always been thirty dollars?
A. Up to last year when they wanted to charge me $35.00, and I would not pay it, and I asked them to take the hydrant out of the yard, and how much it would be then, and they said $30.00; and without the sink they said $30.00. And I said, Take it off, I don't want it. Then I think Mr. Gardner came around and wanted to know what was the matter; I told him $35.00 was too much. He said Well pay $30.00 and leave it go as it is.
Q. You have been paying thirty dollars all around?
A. Yes sir—I have another hydrant on Melpomene street for a coffee stand, where I have been paying thirty dollars for it since 1878 or 1879. I have some of the bills here, if not all of them.
Q. Those are the bills for 224 Melpomene street; are they for only one hydrant?
A. Just one hydrant. It is just a kitchen, nobody lives there. A common shop. At 815 Dryades street it is just a saloon. Just a common shop.

Counsel for plaintiff offers in evidence the five receipts produced by the witness, marked "—"

Cross-examination by Mr. BECKWITH:

Q. What sort of bar-room is that—large or small?
A. Well, it is a counter 22 feet long.
Q. You do a good deal of business there?
A. Not much business is done now.
Q. On account of the epidemic or what?
363 A. People have no money I think.
Q. When they have money you do a large business don't you?
A. Not very large.

Q. Well, now what is a beer pump; is it a water engine, something devised for pumping beer?

A. I don't know myself. I had it put in there, and when they put it up there, they told me that they had made arrangements with the water works company to charge nothing extra for it. They said the water works company wouldn't charge anything, so I had used it about three years without paying, until last year when they wanted to make me pay for it.

Q. They wanted you to pay $5.00 for it?

A. Yes sir.

Q. Well, what kind of a thing is it?

A. Well, I don't know; it looks like a squirt gun; I don't know what it — like exactly.

Q. You use the pressure of the water on it?

A. Yes sir.

Q. The water is brought on to it and when it has performed its work it is discharged?

A. Yes sir; I know that every time you draw beer steadily you use more water than if you use it now and then.

Q. Does it operate every time you draw beer?

A. No sir, not all the time.

Q. How about this coffee stand, where is that?

A. It is in the rear of 1824—used to be 224 Melpomene street.

Q. Is that where your beer is?

A. No sir, it is a separate and distinct place altogether.

Q. Is it an all-night affair?

A. No sir; the all-night affair is in the market.

Q. You called it a hydrant; what openings have you got?

A. One.

Q. What size is it?

A. Well, an ordinary faucet, I believe a half an inch, or three-quarters, or three-eighths of an inch; I don't know exactly.

Q. Have you any filter?

A. No sir; well, I did have a filter one time, but the water
364 was so dirty it couldn't run through the filter, and I had to take the filter down.

Q. You cook now with the water from the hydrant?

A. Now you can.

Q. How much cooking do you do there. Your sales are large in the stalls?

A. For cooking purposes, how much water we use?

Q. No, I say whether the amount of food is large.

A. You want to know how much water we use for cooking only?

Q. No, you can't tell me that; what I want to know is—do you measure the water that you use to boil a ham in for instance?

A. Yes sir, we put enough water in to cover it.

Q. But you don't do the cooking yourself?

A. I don't do it now.

Q. Then you couldn't tell me what the total amount of water used was, unless you kept a water account, could you?

A. No, I don't keep it.
Q. What I ask you is, whether the amount of cooking you do for the stall is large?
A. We cook about sixty pounds of meat a day, and a barrel of potatoes. I use about three gallons of water a day for doughnuts.
Q. But people at your stand don't live on meat and potatoes?
A. We use water to make coffee, but we have got a hydrant at the market now for that purpose.

MAX FRAENKEL, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Fraenkel, you use hydrant water at your store?
A. I do.
Q. How many hydrants have you?
A. One.
Q. Those are your receipts?
A. Yes sir.

(Witness produces receipts.)
Counsel for plaintiff offers in evidence the two receipts produced by the witness, marked —.

365 Cross-examination by Mr. BECKWITH:

Q. Where is your store?
A. 426 & 428 Canal street.
Q. Between what streets?
A. Between Magazine & Tchoupitoulas.
Q. What business do you carry on there?
A. Pants factory.
Q. What?
A. Pants factory.
Q. How many people do you employ?
A. About thirty.
Q. How many stories to the house?
A. Four.
Q. Besides the men you employ, how many other people are in the place?
A. Nobody else but the working people.
Q. Does thirty include all the people occupying that building?
A. About, yes sir.
Q. Where is the hydrant?
A. In the rear on Common street.
Q. On what floor?
A. On the bottom floor.
Q. Any other openings?
A. No sir.
Q. Any water-closets or wash-basins?
A. No sir.

Q. Now you say you have a pants factory—is it simply a manufactory of pants? Do you also sell there?
A. We sell there, of course.
Q. So that is really a store for the sale of ready-made clothes?
A. Yes sir.

SAM. BLUM Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. What is your *occupation?*
A. Sam. Blum.
Q. Your occupation?
A. My occupation is wholesale grocer and commission merchant.
Q. Where do you keep your establishment?
A. 212 Tchoupitoulas street and 213 South Peters.
Q. Do you use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. How many openings have you, or hydrants?
A. One. I also use it in my premises.
366 Q. For the last several years past, what have you been paying?
A. Well, at the store I have been paying fifteen dollars—twenty dollars a year, but at the house twenty dollars.
Q. How many openings at your house?
A. I have a hydrant, a boiler and a sink, and in fact two sinks in the rear.
Q. How many altogether?
A. About four or five.
Q. And you pay twenty dollars at your house?
A. Yes sir.
Q. And how much at the store?
A. I believe fifteen or twenty dollars, I am not positive; somewhere around there.
Q. Have you any receipts with you?
A. No sir, I have receipts for 1899 for my residence.
Q. Did you ever observe at any fires if there was a scarcity of water to extinguish them?
A. One.
Q. Where was that?
A. A crockery factory,—cork factory, Natchez alley & Tchoupitoulas.
Q. What did you see on that occasion there?
A. I arrived there about the same time with the engines, and it took fully ten or fifteen minutes until there was water thrown on the fire.
Q. After the engines got there?
A. Yes sir. And after they did, for the time being, it seems they could not throw any higher than the first floor.
Q. And the fire burning all that time?

A. Yes sir, the fire had gained considerable headway before the engines put a drop of water on them.

Cross-examination by Mr. BECKWITH:

Q. You have a bath-tub at your house?
A. Yes sir. I said four or five openings.
Q. And a kitchen sink?
A. Yes sir.
Q. And a pantry sink?
A. No sir, not a pantry sink; that's in the kitchen.
Q. Now you are a fireman?
A. No sir.
Q. Did you ever have anything to do with the fire department?
367 A. No sir.
Q. Well, how do you know that the fact that they were so long in getting water on the fire was not due to a deficiency in steam, rather than in water?
A. I don't know whether it was the fault of the engine or of the water-works people.
Q. On what street was that?
A. Corner Natchez alley & Tchoupitoulas.
Q. Well, there was water enough there in a short time, wasn't they? Didn't the streets overflow around there?
A. I didn't pay particular attention; the people around there said they were of the same opinion I was myself; I don't know how the plugs are placed.
Q. Well, you don't know whether any of those engines came with steam or not?
A. I couldn't say.
Q. When you found that the engines didn't have power enough to throw water enough above the second story or the second floor, didn't you suspect that they might be short of steam?
A. That might have been possible.
Q. Have you seen the other fire in that locality?
A. Yes sir.
Q. Haven't you seen Poydras street and Natchez alley filled with water at those fires?
A. I have seen a great deal of it.
Q. You didn't know that there was two very large wells on Decatur (Gravier) street that would discharge three eight-inch streams?
A. I have no knowledge of the wells.
Q. Well, is it not possible that the confusion on the part of the controlling of the engines whenever they get to a fire may lead to their not opening the fire-wells at once?
A. That is possible.
368 Q. You don't know whether it occurred then or not?
A. No sir.

By Mr. FORMAN:

Q. Were you looking at the fire when the engines got there?
A. Yes sir.
Q. And it was about fifteen or twenty minutes before they got water on the fire?
A. About that.
Q. And the fire-engines seemed to be going?
A. Yes sir.

ALEX. BLOCKSDORFF, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Saloon-keeper.
Q. Where?
A. On 28 Exchange place.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. How many openings have you?
A. Two.
Q. Two?
A. Yes sir.
Q. What are the rates you have been paying?
A. Thirty dollars.
Q. $30.00?
A. Yes sir.
Q. How long?
A. I only got the place two years and a half ago; I am paying that since that time; before I paid the same amount.
Q. That is the only place where you use the water of the company?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. You keep a bar-room don't you?
A. Yes sir.
Q. How many families live in the building?
A. Nobody but myself.
Q. You have a family?
A. No sir; my wife is dead. I have a cook, that's all.
Q. There are seven rooms there?
A. How many—seven?
Q. Yes.
A. No, five rooms.
Q. How many persons on the place including servants and bartenders?
A. Three bartenders.
Q. You have a beer pump?
369 A. Yes sir.

Q. You don't call that an opening, do you?
A. Well, I don't know whether they call it so or not.
Q. Have you got any sinks?
A. No; the sink is supplied to the upper story, you know.
Q. Haven't you a urinal there, with a perforated pipe, about seven feet long?
A. Yes sir.
Q. You don't call that an opening?
A. Well, it is connected with the faucet on the lower floor.
Q. You don't remember much about it of course?
A. That is connected with the faucet—it is the same opening.
Q. You signed that application?

(Witness handed document.)

A. Yes, I signed it.
Q. Well, did it truly represent the condition of things?
A. I use of course—the upper floor is connected with the faucet; I don't call that two openings. The water runs into it.
Q. Do you get water out of the gutter for your beer pump?
A. No.
Q. And for your urinal?
A. No.
Q. Well, where do you get the water for washing glasses and carrying on the business?
A. Cistern water.

Counsel for defendant offers in evidence the application identified by the witness, marked "Blocksdorff 1."

BEN CASON, JR., Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Cason what is your occupation?
A. Livery business.
Q. You use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. What are the number of your openings?
A. Two.
Q. How much—have you a meter?
A. No sir.
Q. How much do you pay per annum?
A. My bills vary in accordance with the stock. I have
370 paid as high as $110.00 and as low as eighty-eight dollars.
Q. How is the pressure?
A. Well, at times the water does not run enough to wash the wagons. You would have to wait until the water would run into the trough and use it then. We are using a hose, and a man would only smear it up.
Q. Does that happen often?

A. Well, usually in the summer months when the water is muddy.
Q. In the summer months?
A. Yes sir.
Q. Is it at any particular hour of the day?
A. Well, yes sir; during the middle of the day; it is scarcer then.
Q. It is scarcer at that time?
A. Yes sir.
Q. Have you any opening on the second floor?
A. Yes sir, but we seldom have it running.
Q. How is the pressure there?
A. It is very slow—perhaps three to five minutes to fill an ordinary bucket. But if we use the lower faucet, the upper faucet won't run at all.

Cross-examination by Mr. BECKWITH:

Q. What is the size of your service?
A. Three-quarter of an inch hose fits the faucet.
Q. What is the size of the lower faucet?
A. That is the one I speak of.
Q. Three-quarter-inch?
A. Three-quarter hose fits it.
Q. Three-quarter- inch pipe?
A. I presume so.
Q. And upstairs?
A. The same.
Q. Wouldn't you expect the lower faucet to take all the water?
A. Not necessarily.
Q. What time of the year, and at what time is the pressure short?
A. Well on Sundays usually I have the best flow of water. During the week it is deficient. It occurs in the months, perhaps of July and June; in that time when the river is high, in the months of June and July.

371 Q. In the months of June and July the hydrants are opened are they not?
A. The water don't run in the barn at all.

Q. We have an automatic brake of the pressure of the water for every hour in every day; did you get the day you have complained about
A. Yes sir, I did.
Q. When?
A. I don't remember just the day, but just during the time they were digging the drainage canal on Camp street.
Q. Well the pipe was cut off of the drainage canal, wasn't it?
A. Sir?
Q. The supply was cut off of the drainage canal, wasn't it?
A. I don't know sir; the drainage canal is on Camp street, and I am near Rampart.
Q. Yes, but the water is supplied from the front or from the back?

A. I don't know that.

Q. Well do you say you never had any pressure there?

A. No sir, I do not.

Q. Do you know of any reason why you didn't have the same pressure that is in the main?

A. No good reason, no sir. No good reason why I should not get as good pressure as anybody else.

Q. Well, about how long a time—in days, have you been without a good pressure there?

A. The question of that complaint to Mr. Gardner—it was about four days; I used then the water at the corner of Rampart — Girod to water the horses.

Q. Didn't he tell you that the supply was cut off because of the digging of the canal?

A. No sir, he said the city had the water mains on Camp street moved, but he thought by Sunday night following—I think that was on Friday he told me that—the water would be all right.

Q. That was this year then?

A. It was during the time of the digging of Camp street.

Q. You are speaking of matters since last January?

A. That is the question that you referred to particularly.

372 You asked me if I called on Mr. Gardner and complained; I did.

Q. You know that the thirty-inch Camp Street main had to be cut off during the digging of the canal?

A. Yes sir, but that didn't effect the water twelve months before.

Q. But at the time you speak of, it did?

A. Yes sir.

Q. Wasn't it advertised in the papers that that main would have to be cut off?

A. I don't know sir.

Q. You never noticed it?

A. Never noticed it.

Q. Now, on what other occasions before January last you had a short pressure?

A. Well, during the day quite frequently we failed to water the horses in the barn, and made arrangements with the driver to water them on the ride.

Q. That is when they were flushing the gutters?

A. I don't know sir. But I got the water the best I could.

Q. Well now, tell me again the day of the year?

A. Why, it is a common occurrence; it is not an occurrence of one day, it is a repitition every day during the high water of the river; the pipes become muddy in the mains that run to the stable, but I had put in a valve at the street connection just inside of the barn, and I didn't learn of that condition until some time after, and by opening and shutting that valve it will clean out the pipe and the water then runs very well, and after that we have no trouble.

Q. The trouble then was in the service—in the fittings before that?

A. No sir, I can't say how it was.

Q. This deficiency of water had been existing habitually during certain stages of the river?
A. Yes sir, since I have been in the business.
Q. From day to day?
A. Yes sir.

373 Dr. CHAS. H. FORD, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Veterinary surgeon.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. Have you a meter?
A. Yes sir.
Q. How much have you been paying per thousand gallons?
A. Forty cents, thirty-five cents and thirty cents.
Q. Can you tell us how long you paid forty cents, and how long you paid thirty-five and thirty?
A. I have all the receipts.

Counsel for plaintiff offers in evidence thirty-four (34) receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Where is your place?
A. Carondelet & Howard avenue.
Q. Stables?
A. Veterinary hospital.

By Mr. FORMAN:

Q. What is the quality of the water you have been getting?
A. Lately it has been very good.
Q. Since the river has been low?
A. Yes sir.
Q. How is it when it is high?
A. Muddy.

W. J. BROPHY, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Brophy, where do you live?
A. 2547 Palmyra street, corner of Dorgenois.
Q. You are a member of the city council?
A. Yes sir.
Q. How is that portion of the city—is it thickly populated or not?
A. Yes sir; very thickly peopled up all around.
Q. How is the water supply?
A. Lately better now. I have succeeded in extending the mains

now, two squares further back; further out there is no supply at all.

Q. How far back does the supply extend?

374 A. To Broad & Palmyra. In that section.

Q. Between Canal & Tulane, out in the third ward, how far back is the city built up?

A. All the way out to the cemeteries now.

Q. Previous to the 23rd of January 1899, what was the water supply in your neighborhood?

A. We had none at all out there, only from trough wells out there.

Q. From the water works company?

A. The only plug we had was on Rocheblave and Palmyra, and then it was pretty bad. We couldn't use it. The folks out there usually use the water for washing etc., and they couldn't use it.

Q. It wasn't fit for washing clothes?

A. No sir.

Q. You use the hydrant water yourself?

A. No sir. The mains have just been extended out there this last year, and I couldn't put it in. I have been waiting from day to day for some different rate or something.

Q. Do you know of any fires that occurred that could not be put out for want of water?

A. Well, I know of fires prior to 1899. I was at a plug there at one time, when they opened the plug and we had to stand there three or four minutes to let the mud out; it was clogged, on account of not being attended to at that time. They are better attended to now.

Q. Do you know of any fires at which houses were destroyed for want of water?

A. Yes sir, I know of several right around our neighborhood that there was scarcity of water there.

Cross-examination by Mr. BECKWITH:

Q. There is usually a scarcity of hydrant water where there is no main; is it not so?

A. Yes sir.

Q. How many people take service in that Rocheblave plug that you know of, within six or eight blocks of you?

A. Very few of them Judge; there is one on my street I

375 guess, and a few on Tulane avenue.

Q. Not enough then to keep the pipe clear from mud?

A. Hardly, unless the plug was opened to let the mud out occasionally.

Q. Haven't you been asking the company yourself to have the plugs opened out there?

A. Yes sir.

Q. How does it happen that the water can be used except in a drought?

A. I am not talking of now; the water is pretty fair now. It is nice water now, but at times the water is pretty muddy, and they can't use it.

Q. Is it not a fact that all the laundries in town take the water out of the water works—how do they wash with it; do you know?

A. I don't know unless they use filters or alum to purify it.

Q. Is it not true that river water has been used to wash the clothes of nearly all the people in the cemeteries when they were alive?

A. Oh, that was before my time.

Q. Is this generation a less hearty generation than the ones ahead of us you think?

A. Well, I don't know.

Q. Now, you say you had the mains extended this year?

A. Yes sir.

Q. How far, do you know?

A. Just two squares out to the fire-engine house on Broad street.

Q. Does it reach your house?

A. Yes sir, it passes right before the door.

Q. You clamored for it?

A. Well, not exactly. I use the water now for rough purposes.

Q. Yes, but I understood you to say that you were waiting to get it cheaper, and were not using it at all?

A. Yes sir.

Q. Do you get it from the plugs then?

A. Yes sir, across the way.

Q. You supply your house from the plug?

A. Yes sir.

Q. You don't need any service then? Was that why you had the main extended?

A. Oh, no sir.

Q. How many people along that new main take their house supply; is there any?

A. None of them; they are poor people.

376 Q. Well, you and they were waiting then, to see if you could get water out of the plug?

A. No sir, I am willing to pay just the same as anybody else; but I don't believe in being overcharged for it.

Q. You don't pay for what you get out of the plug do you?

A. Well, the little I use don't amount to much.

Q. The plug is kept running all the time by your constituents, and for the convenience of your neighbors?

A. No sir, not all the time; I have to keep on getting it opened.

Q. Do you know how much coal it takes for that purpose?

A. No sir.

Q. You never thought of that?

A. No sir.

Q. You did'nt think it cost anybody anything?

A. It don't cost much.

ELY LANDAUER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Landauer, what is your occupation?
A. A merchant.
Q. Do you use the water of the N. O. Water Works Company?
A. I do.
Q. How many—have you a meter?
A. No sir.
Q. How many openings have you?
A. Do you refer to my dwelling or store?
Q. Both.—First, your store.
A. There is three openings at the store.
Q. Ordinary three-quarter-inch openings is it not?
A. Well, I am not posted as to the size.
Q. What is your price—how much do you pay a year?
A. I pay now twenty dollars.
By Mr. BECKWITH: That is for 1899?
A. Up to last year I paid seventeen dollars.

By Mr. FORMAN: How long have you been using it at your store?

377 A. Well, it is a different store. We are now on Canal street. It was first on Magazine street.
Q. Well, how long have you used in on Magazine street?
A. Two years.
Q. What were you paying there?
A. Seventeen dollars.
Q. How many openings did you have there?
A. We had there—we have got three now. I think we had three on Magazine street.
Q. You had three on Magazine street?
A. Yes sir.
Q. You paid seventeen dollars?
A. Yes sir.
Q. Do you use it at your dwelling?
A. Yes sir.
Q. How many openings have you there?
A. Three.
Q. How much per year do you pay?
A. I pay fifteen dollars.

Cross-examination by Mr. BECKWITH:

Q. Your present place is No. 48 *p*ld No. Canal and 428 new number?
A. 532, new number Canal street. It used to be at that number you mentioned, some years ago.
Q. Now what kind of store are you running?
A. A hat store.
Q. Are you a jobber or retailer?

A. Jobber.

Q. How many people are employed in that place?

A. About half a dozen.

Q. You know on Saturday nights how many, don't you; how much you have to pay out?

A. Yes sir, I pay about half a dozen.

Q. Are there not more than half a dozen?

A. There are not; of course I can't count the drummers in; they are out on the road most of the time.

Q. What openings have you there?

A. You don't refer to 1899?

Q. No, 1897?

A. 1897 and 1898 we were on Magazine street; then we had two or three there.

Q. But here is a bill for 1897 for Canal street.

A. Well, before—1897?

Q. Yes. 424 new number.

A. That is a mistake; we were at that place before we moved to Magazine street.

Q. You evidently went on Canal street in 1897?

A. We went—it may have been at the beginning of 1897, yes sir.

378 Q. Well now, what openings did you have on Canal street?

A. What openings on Canal street?

Q. Yes.

A. In 1897?

Q. Yes, 1897.

A. Well, as far as I remember we had two openings there.

Q. You had a urinal didn't you?

A. Yes sir.

Q. You had a hydrant on the lower floor?

A. Yes.

Q. You had a wash-basin?

A. No—we had a hydrant on the lower floor; we had the urinal on the second floor.

Q. And the wash-basin?

A. Well, that and the hydrant was one faucet as far as I can remember.

Q. Well, then all your people went to the hydrant to wash?

A. Yes sir.

Q. Wasn't there a wash-basin there with a draw-plug?

A. The same faucet reached that.

Q. But you had a hydrant at one place, and a wash-basin in another, and a urinal in still another?

A. If we had I have no recollection of it. The faucet and hydrant on the lower floor where we were—we only got the water for general use; but we washed our hands right in the same place.

Q. Didn't you have a crockery wash-basin with a draw-plug in it?

A. If we had sir, I don't remember it; I don't think we did.

Counsel for plaintiff offers in evidence the two receipts produced by the witness.

By Mr. BECKWITH: Now about your house, what number is that you say?

A. 418 Terpsichore street.

Q. How many openings are there?

A. There are three I believe.

Q. What are they?

A. One faucet in the yard; one bath-room, and one in the kitchen, I think.

Q. Any water-closet?

A. We don't use the water works company for that.

379 Q. Well, how many rooms in the house?

A. Well, I presume about ten occupied rooms.

Q. How many families?

A. Eight besides the servants—from nine to ten.

R. E. L. C. RIES, Esq., sworn for plaintiff, deposes and say:

Direct examination by Mr. FORMAN:

Q. Where do you live sir?

A. 2424 Dauphine street.

Q. Where do you do business?

A. I am salesman for —— ——, No. 339 Carondelet street.

Q. Do you either at that place of business, or at your residence, use the water of the water works company?

A. Not at the residence, but the office uses it, yes sir.

Q. How many openings have you at the office?

A. I would like to say with regard to that, that I am just a clerk there or a salesman, but if you want to know what I know of it, I have been there since 1889; there is one connection from the main, which is about a three-quarter-inch hydrant, to which is connected a 2 A. T., to which—going up—is a filter, and a pipe running to the urinal and the sink.

Q. That is all the openings you have?

A. Yes sir, one opening with three attachments.

Q. The urinal, sink and this filter?

A. Yes sir.

Q. What is the price they have been paying?

A. During my time,—about ten years I think the prices have raised.

Q. Well, how much?

A. Well, from thirteen dollars to $18.00 now. I account for that by reason of the new attachments that have been put on in the last year. I can say that the office was remodeled last year about in April or May, and at that time this filter was put in. Previous to that, we used the water only to wash out the urinal.

Q. How much was it then?

380 A. Previous to those attachments about fifteen dollars. Now it is eighteen dollars. There has b a change of

management, and of course the receipts we can't produce. They have been sent to New York.

Cross-examination by Mr. BECKWITH:

Q. What is about fifteen dollars; what do you mean "by about" fifteen dollars?

A. Well, previous to the attachments of the filter and the sink.

Q. Is thirteen dollars about fifteen dollars?

A. No sir; thirteen dollars or fifteen dollars previous to those attachments. I can't say exactly of my own knowledge whether it was thirteen dollars or fifteen dollars.

Q. That is, you don't know exactly?

A. No sir, because those vouchers have been sent North.

Q. When those vouchers were sent away, no records were kept of them?

A. Yes sir, but the manager died last February, and he used to pay with his private check, you see, and send the receipts to New York.

THOS. F. KING, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are employed by the fire department with engine No. 5?

A. Yes sir.

Q. How long have you been connected with the department?

A. Six years the coming January.

Q. Can you tell us anything of any fires w-ere there was an inadequate supply of water—especially at a big fire?

A. Well, not to my own knowledge no sir.

Q. You were never at such a fire?

A. I always managed to have water whenever I handled the engine at a fire, with one or two exceptions of two bad plugs.

Q. Is there another King in the department?

A. I believe so, I am not positive though; I know there is no T. F. King.

381 Q. Are you the captain?

A. No sir, I am an engineer.

No cross-examination.

EMILE IDREY Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?

A. I am a bar-room keeper.

Q. Where?

A. On South Peters and Lafayette.

Q. Do you use the water of the water works company?

A. Not now.

Q. Did you ever use it?
A. Yes sir.
Q. How long did you use it?
A. About one year.
Q. How many openings did you have?
A. One opening.
Q. What did you pay?
A. The first time the water works company asked me forty dollars for using the water, and I put a meter in, and found out that made a difference of about twelve dollars a year. When I moved from Delta street to South Peters, I asked the company to give me the same privilege, the same meter, and they said No; if you want our water we will give it to you at the minimum price, and I said, how much, and they said twelve dollars would be the minimum, and I told them no.
Q. When you did use the water you had a meter?
A. Yes sir.
Q. And without the meter they wanted you to pay forty dollars?
A. Yes sir.
Q. When you used the meter it cost you about $1.00 a month less?
A. Yes sir.
Q. Have you got the receipt?
A. Only the receipt for three months, $2.80.

Counsel for plaintiff offers in evidence the receipt produced by witness marked —.

Q. When you moved on South Peters they wouldn't give you a meter?
A. No sir.

382 Cross-examination by Mr. BECKWITH:

Q. You keep a bar-room, don't you?
A. Yes sir.
Q. What they call a "barrel-house"?
A. Well, if you want to—it makes no difference.
Q. You never took any water where you are now?
A. No sir.
Q. Where was your other place—where was it?
A. Well, I can't——
Q. Well, you kept another place somewhere where you did take water; where was that?
A. Delta street.
Q. How far is that from where you are now?
A. About four blocks; that place is closed now.
Q. You sell mixed drinks?
A. Yes sir.
Q. They generally do in a barrel-house, don't they? Do they mix it with water?
A. No sir; I mix with seltzer.

Q. How many barrels of whiskey do you sell a day?
A. How many barrels a day? Well, if I sold one a month it would be all right.
Q. Well, you sell whiskey for five cents a drink?
A. Yes sir.
Q. With no water in it?
A. Yes sir.

J. J. MANSON, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Manson, you are a merchant, I believe, dealing in salt?
A. Yes sir.
Q. Your place is at the corner of Tchoupitoulas and Common?
A. Yes sir.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. How many openings have you?
A. I have three openings.
Q. How much have you been paying?
A. Twenty dollars a year.
Q. All along?
A. Yes sir.

(Witness produces a detailed statement from 1875 to 1899, and it is offered in evidence by counsel for plaintiff as part of the witness' testimony, with the exception of that part of it
383 relating to 1899, which under the rulings of the court is not admissible in evidence.)

Q. Didn't you live for a number of years on Annunciation street?
A. Yes sir.
Q. Did you also use the water of the water works company there?
A. Yes sir.
Q. How many openings did you have at that place?
A. About six or seven sir.
Q. What were you paying there?
A. We paid different rates—twenty dollars, seventeen dollars, fifteen dollars, thirty dollars and twenty-three dollars.
Q. Have you a statement there?
A. Yes sir.

Counsel for plaintiff offers in evidence the statement referred to by the witness.

Q. Did you use the water anywhere else?
A. Yes sir.
Q. Where?
A. At my residence.
Q. How many openings did you have there?
A. Six or seven sir.
Q. How much did you pay there?

A. Twenty-five dollars.

Q. How was the pressure at your place, at Audubon place?

A. At times it was very slow and poor—at certain times, and at other times it was very strong.

Q. Well, during what time of the year or the day was the pressure poor?

A. Well, usually about nine o'clock.

Q. It went down at about nine o'clock?

A. Yes sir.

Q. And it remained low until what time?

A. I couldn't answer that because I was seldom there after nine o'clock; I only noticed it on Sundays. I left there early in the week.

Cross-examination by Mr. BECKWITH:

Q. Were you connected with that same business stand where you are now, in 1875?

A. No sir.

Q. You were not there then at all; you came in afterwards?

A. Yes sir.

384 Q. What was the name of the concern ahead of you?

A. Jackson & Manson.

Q. You were not in the store at all?

A. No sir.

Q. You don't know what openings they had there?

A. Yes sir, because I used to go there very often.

Q. Well, what openings did they have?

A. The same as we have now sir. They have had the same openings since 1875.

Q. Seventy-three years is a long time back—tell us what they have now?

A. I didn't say 73 years; I said 1875—as far back as 1875 they have had the same openings all that time.

Q. What were they then?

A. There was a hydrant, urinal and a washstand.

Q. What?

A. There was a hydrant, urinal and washstand; the hydrant ran into the bath-tub.

Q. There was a bath-tub there?

A. Yes sir, the hydrant ran into this tub.

Q. On what floor was that?

A. On the lower floor sir.

Q. Are there any openings above the lower floor?

A. Not that I know of.

Q. You are certain of it; you are certain there was not eight or nine years ago?

A. Not that I know sir.

Q. What connection had you in there in 1875?

A. I used to go there nearly every day sir.

Q. How old are you?
A. I am forty.
Q. Now I couldn't hear exactly; you testified about two residences; where were they—the first one you testified of, where was it?
A. Annunciation and Thalia.
Q. When did you go into that house?
A. Shortly after I was born sir.
Q. When did you leave it?
A. I think it was in 1894.
Q. What time was it?
A. 1894.
Q. What openings did you have in that house?
A. A hydrant, an opening for the garden hose, and we had a boiler that supplied the kitchen, sink and bath-room, and
385 I believe the closets.
Q. How many closets?
A. Two closets.
Q. And then there was a sink in the kitchen?
A. I said so sir.
Q. Now you went from there up to Audubon place?
A. Yes sir.
Q. Do you remember when you first went up there—when you first commenced living up there; what year was it?
A. I think it was about September 1895, sir.
Q. Well, was there a main on St. Charles street up that far at that time?
A. I don't know whether the main was run up after I got there, or just before.
Q. Well, how far back from the street is your house?
A. From St. Charles street?
Q. Yes.
A. Maybe two hundred feet.
Q. Are there any houses between you and the street?
A. No sir.
Q. Now at what date did you have low pressure there—what time of the year?
A. Well, I don't recollect positively sir.
Q. Well, wasn't it at the time when they were opening the hydrants and flushing the street?
A. Possibly so, sir.—And the pressure on the second floor was slow at times.
Q. You go up and down that street in the cars, I suppose; didn't you see the hydrants running?
A. At times, yes sir.
Q. Were they not running at that time?
A. I couldn't say positively sir.
Q. When it is raining, and there is no call for water from the hydrant, what is the pressure there?
A. As I told you Judge, I couldn't say whether it was during the dry weather or the wet weather; at times the pressure was good.

Q. Most of the times?
A. Yes sir.
Q. Don't you know that the street commissioners and the city authorities were at times opening the hydrants and plugs *ad libitum* to flush the gutters?
A. Yes sir, and therefore I never complained.
386 Q. You attributed it to that?
A. Yes sir, I thought it was some cause of that kind.
Q. When did your house burn?
A. In February 1899 sir.
Q. February 1895?
A. 1899.
Q. February 1899?
A. Yes sir.

The hour of adjournment having arrived this cause was continued until Tuesday morning, November 14th, 1899, at 11 o'clock.

387 STATE OF LOUISIANA, *Parish of Orleans.*

Civil District Court, Division "E."

STATE OF LOUISIANA *vs.* NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court before the Hon. Geo. H. Theard, judge, on the 14th day of November, A. D. 1899.

H. C. OSBORNE Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. Where is your place of business?
A. Poydras & Carondelet.
Q. What do you do?
A. Bar-room.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. You have a meter?
A. No sir.
Q. What are your facilities—how many openings have you?
A. Right now I have got a urinal, hot and cold water in the two bath-rooms.
Q. How long have you had those facilities?
A. Since the 1st. of October only.
Q. Last year, and the year before?—How long have you been there?
A. Two years.
Q. What were your facilities last year?
A. Only a urinal.

Q. Only a urinal? What did you pay then?
A. Eighteen dollars.
Q. The year before?
A. I was using it for drawing beer out with the beer pump; I paid thirty-six dollars.

Cross-examination by Mr. BECKWITH:

Q. You keep a bar-room don't you?
A. Yes sir.
388 Q. In what locality?
A. Poydras and Carondelet.
Q. How many rooms?
A. It is supposed to be a twenty-room house.
Q. And how many stories?
A. Three stories.
Q. How many families occupy the place?
A. There is only one, my wife and I.
Q. How many openings have you there?
A. Well, there is hot and cold water in the kitchen, and two bath-rooms and a urinal.
Q. When did your last term of water end—expire?
A. I was using water on St. Charles street when our boarding-house had started in October.
Q. You only went into the present place in October?
A. Yes sir.
Q. That is subsequent to this suit; where did you live before that?
A. 609 St. Charles street.
Q. What sort of place was that—boarding-house?
A. Yes sir.
Q. How many stories?
A. Three stories.
Q. How many rooms?
A. About fourteen rooms.
Q. How many persons occupied it?
A. Only my wife and myself, that was all; one family. Probably eight or ten persons, maybe fifteen persons.
Q. What openings did you have there?
A. Two bath-rooms, hot and cold water in the kitchen.
Q. Connected with the range?
A. Yes sir.
Q. And a yard hydrant?
A. No sir.
Q. You had no sinks?
A. Hot and cold water in the kitchen. There was a sink in the kitchen—a sink to wash dishes; hot and cold water in the kitchen.
Q. What time did you leave that place?
A. The 1st of October.
Q. You occupied it up to the time you came to Carondelet street?
A. Yes sir.

Q. How long did you occupy that boarding-house?
389 A. About fifteen months.
Q. Did you have any—didn't you keep a bar-room somewhere else?
A. No sir; I have only been in this town two years and a half.
Q. Did you have a urinal up on the place on St. Charles street?
A. No sir.
Q. Where did you have that—on Carondelet St.?
A. Yes sir.
Q. Now during what time did you pay eighteen dollars?
A. I paid $18.00 last year, and up to the time I made the new contract with them.
Q. That is, your boarding-house bill was eighteen dollars?
A. No sir, the urinal was eighteen dollars.
Q. The urinal was in your new place?
A. It was always at the bar-room; understand me—I am now calling your attention——
Q. That bar-room was established since this suit began. I want to know about the St. Charles Street boarding-house; you paid $18.00 for water there all the time?
A. No sir.
Q. What did you pay?
A. Thirty-six dollars up there; you never asked me the question what I paid up there, you only asked me what I paid at Carondelet & Poydras; I said $18.00 for the urinal there, and $36.00 on St. Charles street; that is for the two openings in the kitchen and two bath-rooms. That's all the openings I had; I used a filter.
Q. Where was that filter connected?
A. With the top cistern. It filled the top cistern; I used rain water in the bottom cistern.
Q. You had a filter and a hot and cold water, and a bath; that's all you had up there?
A. Yes sir, that's all I had up there.
Q. You had no beer pump in the boarding-house?
A. No sir.

By Mr. FORMAN:

Q. It seems to me that counsel on the other side have managed to get this matter very much confused. You have occupied
390 a coffee-house corner of Poydras & Carondelet?
A. Yes sir.
Q. How long?
A. About two years and a half.
Q. Last year, what were your facilities at that place?
A. A urinal only—$18.00 a year.
Q. That's all you had last year?
A. Yes sir.
Q. And the preceding time?
A. I used it for pumping beer and paid $36.00 for the urinal and beer pump.

Q. Then when you shut off the pump you paid $18.00 for the water?
A. Yes sir.
Q. Just a single opening?
A. Yes sir.
Q. Your place is a boarding-house, at another situation; the other place?
A. Yes sir, 609 St. Charles street.
Q. And there you had what facilities?
A. I had two bath-rooms and hot and cold water in the kitchen.
Q. And that is all?
A. Yes sir.
Q. What did you pay for that?
A. Thirty-six dollars.

By Mr. BECKWITH:

Q. Did you keep the boarding-house and bar-room at the same time?
A. Yes sir.
Q. And you kept them both about two years and a half?
A. No sir; I told you I keep the boarding-house about fifteen months.
Q. When did you close up the boarding-house?
A. On the 1st of last October.
Q. That urinal was a long perforated pipe; how long?
A. Three feet probably.
Q. Running all the time?
A. No sir, not all the time; it wasn't supposed to run all the time; just occasionally.

Prof. JOHN M. ORDWAY, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Professor, what is your occupation?
A. I am professor of biology in the Newcomb college.
391 Q. Is Newcomb college a part of Tulane university?
A. Yes sir; for seventeen years I was in Tulane university, and the last two years I have been at Newcomb college.
Q. Professor of what?
A. Professor at Tulane of industrial chemistry, and biology and civil engineering.
Q. Have you ever had occasion to make any tests of Mississippi River water?
A. I have been making tests for the last two years sir.
Q. From those tests, what do you find to be the quality of the water for purposes of use?
A. The water itself is as good as anything that could be desired; but the mud in it is very objectionable.
Q. Couldn't the mud be removed and the water purified?
A. Yes sir, very easily.

Q. By what process?

A. By precipitation and coagulation; and it is well to use subsequent filtration.

Q. Is that an expensive process?

A. It is not.

Q. Is it commercially practicable?

A. It is.

Q. Could you give us an idea of the cost per million gallons for purifying that water?

A. I cannot tell precisely because I have not manufactured coagulants on a large scale; but something short of $20.00 I should say.

Q. Twenty dollars for a million gallons?

A. Yes sir.

Q. When the river is high, and the water in the river is muddy, is the water potable?

A. I should not call it so myself; I should not drink it.

Q. Is it good for bathing purposes in its muddy condition?

A. I should think not.

Q. Can it be used to advantage for washing clothes?

A. I should think not.

Q. Did you ascertain the quantity of earthy matter in a given quantity of water—Mississippi River water?

392 A. I have several times.

Q. Will you look at these little glass tubes (handing witness tubes attached to a card) and say whether you ever saw them before?

A. I put them up myself, something more than a year ago.

Q. What do they show?

A. First, how much matter may be precipitated out — the whole sediment from two litres, that is about two quarts of water. The second one shows what remains in the water after two hours' mixing with the coagulants, and after settling; the third shows, what is left after one hour mixing, with the coagulants; the fourth shows what remains after five minutes' mixing (witness illustrates). That is the whole sediment from two litres, that is after an hour's settling; that is after two hours' settling, and that is after five minutes' settling.

Counsel for plaintiff offers in evidence the tubes attached to a card.

Q. Do you know anything as to the apparatus of the water works company in the city of New Orleans?

A. I have seen it.

Q. What would you say as to the adequacy of its stand-pipe, for equalizing the pumping?

A. It amounts to almost nothing; it is much smaller than any I have ever seen anywhere else; very much smaller. The stand-pipes in the northern towns hold at least 300,000 gallons. I don't think this would hold 100,000.

Q. What effect has the smallness of the stand-pipe upon the operation of the plant?

A. It would prevent supplying the water for any length of time. It would be bad in case of fire. There should be enough to last six hours, with the ordinary supply; then there would be enough for fires.

393 Q. Suppose a condition of drought existing in which a number of plugs were opened in the street during certain hours of the day to supply the poor people with water, and as a consequence of that the pressure would be weakened—how would an increase stand-pipe capacity effect that condition?

A. It would help them a great deal, because the water would accumulate in the night and could be supplied in the daytime.

Q. From your observation of the operation of the water works in New Orleans, what have you to say of the adequancy of the company in supplying the wants of the inhabitants?

A. I can't say of my own observation. I have never been at fires or noticed what is wanted there. I can only say, that one time I used a sink on the third story and part of the time I could get water, and part of the time I could not.

Q. About what part of the time was it that you could not get the water?

A. Well, I should think it was at least a fourth of the time. I can't say positively.

Cross-examination by Mr. BECKWITH:

Q. Were you ever a practical engineer carrying on any engineering operations?

A. Well I have been a chemical engineer for twenty years, carrying on large operations in the chemical-engineering line.

Q. Is not the term "chemical engineer" rather new in terminology?

A. It is new, yes sir.

Q. How long has it been used?

A. Two or three years I should say.

Q. Were you ever a hydraulic engineer?

A. No sir.

Q. Did you ever deal in the practical construction of works of hydrostatics?

A. No sir, not with the practical construction of them.

394 Q. Did you ever construct or operate a water works for public supply anywhere?

A. No sir.

Q. Do you know much about it of your own knowledge?

A. I know what I have seen—what I have observed. Of my own management I don't know.

Q. To what extent have you been practically engaged in mechanical engineering?

A. I have had something to do with that.

Q. You say you examined the pumps at the pumping station of the water works company; can you tell what kinds of engines they are, and the pump?

A. I didn't examine them very particularly.

Q. Do you know whether they were compound or single?

A. Compound I think.

Q. Both compound or not?

A. That's more than I can say.

Q. Do you know whether they were duplex or triplex combination?

A. I can't say positively; I think they were triples.

Q. Do you know how many flanges and the sizes of those flanges?

A. I took no measurements sir.

Q. Do you know the length of the stroke?

A. No sir. I took no measurement.

Q. Do you know the cubic contents of the space between the foot valve and the flange at the extreme end of the pump?

A. No sir.

Q. Do you know the weight of a cubic foot of water?

A. Yes sir; sixty-two and a half pounds.

Q. Do you know the weight of a gallon—United States standard gallon?

A. It weighs one-eighth of that, about.

Q. At what temperature?

A. Eight pounds and a third, temperature 60 degrees Fahrenheit.

Q. Now, did you ever have anything to do with the construction of reservoirs for holding water?

A. No sir, not on a large scale.

395 Q. Have you any idea of the demands for water to be supplied by those pumps in the city of New Orleans?

A. Yes sir, I have.

Q. What is it?

A. Well, about from ten to twelve million gallons.

Q. Have you any idea what the variation is in weight, between the largest demand in the day, and the smallest at night?

A. I can't tell about that.

Q. Have you any sort of an idea what size tank would be required to hold a million gallons of water?

A. A tank sixty feet in diameter and fifty feet high will hold it sir.

Q. What size tank would it require to hold five million gallons?

A. I have not calculated that, but I should not build one, I should build five.

Q. Do you know the system by which the city of New Orleans gets its supply of water?

A. The system—I know nothing more than it is pumped direct into the distributing pipe.

Q. If the pumps are not properly connected, as much will be lost and not go into the distribution, as if pumped into it?

A. Of course.

Q. Have you any idea about pumps—as to whether the rate of speed can be increased or decreased?

A. Of course it can; that is often done.

Q. About how long would a million-gallon tank last at an average fire?

A. I suppose about half an hour.

Q. Have you any idea what the office or purpose of a stand-pipe is, so far as relieving the pipe and the val-es and the pumps sir?

A. It tends to equalize the supply.

Q. To equalize the supply?

A. Yes sir; it can have little effect on the valves.

Q. Suppose there was no offered relief in the stand column,
396 and the city was demanding six gallons of water—there was a demand for six million gallons of water, and you had no stand-pipe, and you put it in at the rate of seven million gallons what would happen?

A. Well, of course the seven million gallons would be supplied in that case.

Q. But what would hold it?

A. Simply the pipes themselves.

Q. Is water compressible?

A. No; but you suppose there is an outlet.

Q. I say, supposing the city is demanding six million gallons per day, at that rate, whether without the demand increasing you put it in the pipe at the rate of seven million gallons, how long would it be before it would burst from one end to the other?

A. It wouldn't burst, it would overflow if the water had an outlet.

Q. I say, without a stand-pipe?

A. In that case the pipes would burst, of course.

Q. Then the office of the stand-pipe is merely a matter of relief and counterpoise, to prevent the dead hydraulic pressure from bursting the pipe?

A. Not merely that, it is partly to regulate the supply.

Q. The supply is regulated by the pump is it not?

A. No sir. If you have a sudden demand for more than the pumps and supply, you call on the stand-pipe to meet the demand

Q. Do you know of a stand-pipe anywhere holding a million gallons?

A. No sir.

Q. Suppose a fire called for two million gallons of water inside of half an hour, where would you get it?

A. From the stand-pipe.

Q. If the stand-pipe was connected with the main, and the water fell a foot or ten feet, you would have ten feet less pressure
397 on the main, wouldn't you?

A. Yes sir.

Q. Have you any works within your reach on the subject of water supply, and the dangers and precautions necessary to keep a permanent supply, and to avoid accidents?

A. I have quite a number of them on water supply.

Q. Have you any on the mechanical part of the supply?

A. I have not.

Q. Suppose there was a million-gallon stand-pipe there, of the size you describe, and suppose you were correct in your dimensions, and in order to maintain the required pressure on the main you had to have eighty feet of water in that stand column, and in drawing on it for a supply, it fell twenty feet, what would be the effect on the pressure—on the whole system, and the capacity of the balance of the pipe to transmit the water?

A. It would diminish it, of course. It should be raised at least fifty feet—the stand-pipe.

Q. Have you any idea sir what the weight of a column of water—say take a cubic column of water an inch square, what is the power required to raise it thirty-four feet?

A. It is a power equal to twenty-five pounds to the square inch of a fifty-foot pipe.

Q. What is the value in weight of a column of water an inch square and two feet high?

A. One pound.

Q. One pound?

A. Yes sir.

Q. One pound pressure would only life two feet, one inch square?

A. An inch square and two feet high would press on the bottom with the force of one pound.

Q. Upon what authority do you state that?

A. On the authority of all the books that you can find,—an atmosphere is equal to thirty-four and a half feet.

Q. Have you any books that have such a table of weight?

398 A. Such tests have been made frequently, and all the books contain the statement.

Q. You remember exactly the decimal?

A. I don't understand what you mean.

Q. Wouldn't it be extremely strange that a column of water an inch square should meet its subdivision of weight without a decimal?

A. Without a decimal?

Q. Yes.

A. I gave the whole number. The weight of a column of water an inch square and thirty-four feet high is equal to fourteen pounds and seven-tenths, one atmosphere.

Q. Did you ever hear that the weight was two and three-tenths and a fraction?

A. It will vary with the temperature.

Q. We assume sixty degrees of temperature?

A. I have not given the fractions; I don't remember it; in such a case fractions are of little consequence.

Q. Did you ever experiment with this water to ascertain how much the deposit of a gallon would weight with the water that would necessarily adhere to it, to make it a condition of mud, and where it ceases to be fluid?

A. I have not.

Q. Didn't you once state that it was an ounce to the gallon?

A. That was the amount of mud.

Q. That is what I am getting at——

A. I don't recollect what I stated, but I had it determined by observation.

Q. The residuum of a gallon being in the condition where it was not fluid, and had to be handled mechanically, would, in your opinion, be an avoirdupois ounce to a United States gallon?

A. If that is what I have stated, that would be the case. I haven't got any note book here.

399 Q. You say one of those exhibits is the sediment in two litres?

A. Yes sir, two litres—equal to about two quarts.

Q. It is dried, is it not?

A. Yes sir, it is dry.

Q. By heat?

A. Dried at red heat, yes sir.

Q. What was the weight?

A. I can't give you that; it is stated on that paper. Seven and ninety-one, one hundred gramme-.

Q. Didn't you state in your examination at the city hall, before the committee, that you found that when the residuum came to a point where it ceased to be fluid you found an avoirdupois ounce to the gallon?

A. I did not--I see by this I could not have done so.

Q. But that is dried; how much water would it hold after leaving the point of fluidity and becoming mud?

A. That I don't know; I suppose ten per cent.

Q. Well, would you give us, in your opinion—you are giving us some marked estimates, what would be the weight of the residuum in condition to be shovelled from a fluid gallon of water?

A. About a half an ounce I should think.

Q. Have you any idea how long the water would have to be impounded—your system calls for large reservoirs. How long would it have to be impounded to get that deposit?

A. If coagulation was used, in an hour or less time.

Q. Even in thirty million gallons?

A. No matter what the quantity.

Q. Will you give us the size of a basin or tank that would hold thirty million gallons?

A. I cannot tell that without resorting to calculation.

Q. It would be very large, wouldn't it?

A. Yes sir.

Q. Well, about what time do you calculate would intervene between pumping the water into such a tank, and precipitating the mud in such condition as to give clear water to the main?

400 A. Not above an hour. I considered it upon a small scale, in nve minutes.

Q. Now you would have that water settled at the level of the

tank; at the surface of the ground. What do you estimate to be the extent of repumping that water about eighty feet, into the stand-pipe?

A. It would be very little additional cost, because it is just as easy to pump ten feet and then sixty feet, as to pump eighty feet at once. If it is raised ten feet you don't have to raise that again.

Q. But you would have to have a second installation wouldn't you?

A. Two pumps of course.

Q. Well, we will say you raised it to the level of the tank, ten feet above the ground, and then had to repump at eighty feet; what do you estimate would be the cost necessary to repump it from your tank to eighty feet?

A. I can't give you the cost at all, but I can say I think that the additional cost of the first pumping would be very small.

Q. Do you know how many gallons of water will be pumped with any installation, with a ton of coal, and how high?

A. Well that I can't tell.

Q. Wouldn't it have been well for you to have ascertained this fact before making an estimate of twenty cents per million gallons?

A. I didn't say twenty cents for raising a million gallons, but twenty cents for the coagulants.

Q. You haven't the faintest idea how much coal it takes to pump a gallon of water say ten feet high?

A. I could calculate the power required; I can't do it immediately.

Counsel for the State asks that the witness be permitted to make the calculation at once, as an effort is being made to show that he does not know what he is talking about.

Counsel for defendant company states that the calculation is one which would involve considerable figuring, and that would require some time to demonstrate.

401 Q. Will you be kind enough at your leisure to make that calculation?

A. Yes sir.

Q. Now do you know anything about the amount of lift on the suction side of the pump here, with the varying conditions of the river?

A. I do not.

Q. Do you know the least or the highest lift?

A. No sir.

Q. Would it not have been well to have known that?

A. I don't think it signifies at all; it has so much work to do anyway.

Q. Say we take thirty-two million gallons—sixty-four million gallons of water, with a fluid ounce of solid matter to be disposed of from the water in depositions, how many tons of precipitants would that be?

A. How many tons in how many million gallons?

Q. Sixty-four million gallons.

A. It would be a half ounce to a gallon; you can calculate it very quickly.

Q. Twenty-five thousand tons, wouldn't it?

A. Something like that.

Q. Wouldn't it be that exactly?

A. Half an ounce per gallon for thirty-two million gallons would be 1,000 tons.

Q. But for sixty-four millions, it would be 2,000 tons?

A. For sixty-four millions I mean—did I say thirty-two million? For sixty-four million it would be——

Q. It would be what?

A. Sixty-four million half ounces, or thirty-two million ounces.

Q. And that makes how much?

A. 1,000 tons.

Q. It is one thousand tons for thirty-two million gallons?

402 A. One thousand tons of two thousand pounds to the ton, each, in the existing tons.

Q. Now you would — that would come down in the bottom of the basin?

A. Yes sir.

Q. Have you any idea of the cost of removal of that?

A. It would cost almost nothing, it would be removed automatically.

Q. Have you a working plan of your system for purifying the water, anywhere?

A. I have at home.

Q. You think it would cost nothing to remove that deposit?

A. It would cost very little; it would take some water to wash it out, but not much.

Q. Can you give us the calculation—you needn't make it now, but make it and return it when you can—for a basin, ten feet deep to hold sixty million gallons?

A. Yes sir I can get that.

Q. Now, you have got some kind of system of your own, haven't you, in the way of precipitants?

A. I have.

Q. Cannot that mud be thrown out by the chloride of iron in that time?

A. No sir, it operates more slowly than what I use.

Q. Have you ever tried any of the aluminum?

A. I have tried everything that can be thought of.

Q. What do you use?

A. I use a mixture of basic chlorides of iron and aluminum.

Q. What is it?

A. A combination of those two ingredients, basic chloride containing alumina and oxide of iron and muriatic acid.

Q. What chloride—of what basic?

A. Iron and aluminum.

403 Q. In what proportion?

A. The iron and the aluminum are nearly equal.

Q. What quantity would be required for a million gallons of water?

A. It would take seventy pounds.

Q. Seventy pounds?

A. Seventy pounds for a million gallons.

Q. Will you tell us the chemical formula for your basic chloride of aluminum?

A. I can give it—the formula would be: Fe. 2; Cl. 6 plus Fe. 2; O, 3; plus 2 Al. 2; Cl. 6, plus 2 Al. 2, O, 8.

Q. Not a single salt then?

A. No sir.

Q. Now please give us the chemical formula for your basic chloride of iron?

A. That would be: Fe. 2; Cl. 6, plus Fe. 2, O, 3.

Q. Where are those chemicals manufactured?

A. They are not manufactured in quantity, they would have to be made.

Q. You are the discoverer of that formula?

A. Yes sir.

Q. Didn't you, in your examination before the committee, decline to give this formula and say it was your own?

A. Yes sir.

Q. Now, will you tell us what chemicals earths are borne in suspension by the Mississippi river at high water?

A. The Mississippi river contains silica—that is sand; clay—that is silica of alumina; a little carbonite of magnesia, a little carbonite of lime in suspension. In solution, it contains, carbonite of soda, carbonite of lime, carbonite of magnesia and soluble silica.

Q. Well, does it not carry what is known as hydrate of aluminum?

A. There is no hydrate of aluminum there, except in the form of clay—yes, hydrate, but there is no free aluminum. There should be some free silica there, but no free aluminum.

Q. What is it in your formula that attacks in the way of coagulation?

404 A. The acids of the compound n-utralizes the carbonite of soda and the alumina and oxide of iron form a curd or coagulum, which carries down the sediment—the suspended matter.

Q. Do you know whether there are times when the matter suspended in the Mississippi River water is more obstinate for precipitation, or taking down, than at other times?

A. Very little difference. I use about the same quantity of coagulants in every case; the difference is very small. For what is actually in solution, is about the same at all times.

Q. When did you first make known this discovery of yours, Professor?

A. I haven't made it known until now.

Q. Did you, in your consultation of scientific books, reports or proceedings—did you ever see this formula of yours for precipitants either described or suggested?

A. No sir; it is not to be found anywhere.

Q. Did you arrive at it by long experiments?

A. Yes sir. I was experimenting on those particular compounds, forty years ago.

Q. How much is the largest amount of water you ever dealt with?

A. Forty gallons—I generally operate on five gallons.

Q. You were led to this investigation after the trial of the ordinary precipitants—solutions of iron and aluminum?

A. After the use of those.

Q. After experimenting with them?

A. I tried those about the same time, with these.

Q. When did you first know the value of those precipitants of yours?

A. Why, I found its efficacy about two years ago.

Q. What is the trouble with the prior known precipitants—what is it that led you to look after something better?

A. It is a little too slow; I wanted something as rapid as possible in its action.

405 A. Well, the alums are slow?

A. Yes sir, too slow altogether.

Q. Iron is slow?

A. Yes sir.

Q. Yours is the only one rapid and quick that you know of?

A. The best that I have been able to find.

Q. Please give us those calculations we asked for?

By Mr. FORMAN:

Q. Relatively, would it make any difference whether a large quantity or a small quantity of water was purified in testing the efficacy of your formula?

A. I think not. I have some evidence on that score in the experiments that I have made at the Young Men's Gymnastic Club. I operated in pint bottles there, and afterwards in the cistern holding 16,000 gallons, and the sixteen thousand gallons operated as well as the pint bottles—that is, in precipitating the water containing carbonite of iron.

Q. Would you have any objection after you have made the calculation you have been requested to make, to give to the court, for the benefit of the State and city, your plans for handling the water supply?

A. I have no objection.

Q. We would be obliged to you if you did sir.

Counsel for defendant company states that if the witness is to produce that plan, it will be necessary for him to go back on the stand in order to explain it, as it may not be self-explanatory; and it is understood that the witness, when he produces the plan, will also explain it.

Q. Are they working plans for consideration?

A. Yes sir, they are.

Q. Giving the dimensions and so forth?

A. Yes sir. I haven't worked them out as fully as I intend, but will furnish a general scheme.

406 WILLIAM LOSCH, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Bakery.
Q. Where?
A. At 2715 S. Rampart street.
Q. Did you use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. Have you a meter?
A. I got one here the last year and a half.
Q. Before you had a meter, what rate were you paying?
A. Thirty-eight dollars.
Q. Have you a receipt for it?
A. Yes sir. (Witness produces receipt.)
Q. What were your facilities, how many openings did you have?
A. When I had the meter, two.
Q. Two openings?
A. Yes sir.
Q. Two hydrants?
A. Two faucets.
Q. What occurred when you applied for a meter?
A. I thought I could do better; I got four large cisterns, and didn't use always the river water; so I thought I could save money by having a meter.
Q. What occurred between you and the company when you applied for a meter?
A. They shut the water off; didn't want to give me no meter.
Q. Did you finally get one?
A. Yes sir.
Q. Where?
A. On Camp street.
Q. From whom?
A. New Orleans Railway & Supply Co.
Q. Did the water works company people tell you to get it there?
A. No sir.
Q. How came you to go there then?
A. I seen some there, and first I made an affidavit—I wanted to petition the council for the right to put a meter in.
Q. How long were you trying to get one?
A. Several times when I went there.

Q. What was the difficulty?

407 A. They said it would be too costly to send their collector there every month.—That it would not pay shoe leather to collect the rate I would use.

Q. Did they make any condition when they gave you a meter?
A. I had to guarantee that I would use twenty-five dollars' — of water a year; so I agreed for six months and a half, twelve dollars and a half; I would not guarantee for a year.
Q. Did you get a meter finally?
A. Yes sir.
Q. Are those your receipts. (Showing witness receipts)
A. Yes sir.

Counsel for plaintiff offered in evidence the eight (8) receipts produced by the witness.

Q. Well, do you know yet how much you used?
A. Eighteen dollars and five cents with the meter.
Q. And they made you pay twenty-five dollars?
A. Yes sir, they shut the water off three days until I paid the balance—wanted to shut it off.

By Mr. KRUTTSCHNITT: In so far as this bill is concerned, which contains reference to a guarantee of $25.00, it is admissible for the purpose of showing that fact; but there is another bill here for 1899 which is not admissible under the rulings of the court.
Counsel for the State of Louisiana withdraws the bill for 1899.

Cross-examination by Mr. BECKWITH:

Q. You keep a bakery, don't you?
A. Yes sir.
Q. How many horses and wagons have you?
A. I got three—sometimes four horses.
Q. A stable on the place?
A. Yes sir.
Q. How many barrels of flour a day do you use?
A. Four, five, sometimes six, according to how it goes.
Q. Well the smallest amount five and the largest amount six?
A. Six, about that.
Q. How many openings do you have in your place; a yard hydrant?
A. I had two openings. I had it by the year, and I got four now since I got the meter.
408 Q. What were the openings when you got it by the year—a yard hydrant?
A. Yes sir, and a little connection leading further up to the stables.
Q. Did you increase your cistern capacity afterwards?
A. No sir.
Q. Did you connect the cistern with the stables?
A. I had the cistern since I am there; the same capacity.
Q. Was that connected with the stables to water the horses?
A. I used to have a little pipe from the main pipe to bring it there.

Q. I ask you if the cistern was connected with the stables?
A. Yes sir.
Q. Have you got any pipe from it—any other pipe from it?
A. No sir.
Q. What was the other openings?
A. I got a filter.
Q. A filter?
A. Yes sir.
Q. What size filter is it?
A. About four or five gallons per day.
Q. Well, when you got the meter you were careful not to let the water waste were you not?
A. I used to be the same; I use more now than when I paid by the year.
Q. What did you report to the water works company as to the amount of flour you used up?
A. At that time?
Q. Yes.
A. About three or four barrels.
Q. What did you report when you applied for water, to be the number of barrels, the number per day that you were baking in that shop?
A. I couldn't say exactly the number.

By Mr. FORMAN:

Q. When you were paying for the water by the year, $38.00, how many horses did you have?
A. Three horses.
Q. How many barrels of flour were you working up a day on the average?
A. I was baking less than now.
Q. You say you have a filter?
A. Yes sir.
Q. And when the water is high, can you use the water for
409 bread without filtering it?
A. I had to get a filter for that purpose.
Q. And when the river is low can you use it without filtering?
A. Well, before I had any filter I used to let it stand for a day or two.
Q. You couldn't use it unless you had a filter or allowed it to stand?
A. No sir, never used it as soon as it came out.

By Mr. BECKWITH:

Q. Haven't bakers used that water to bake bread, for years and years?
A. Yes sir.
Q. Don't they use it for making seltzer water?
A. Yes sir, I think so; we used to have well water, before. I used to use well water.

Q. You ran the water into a tank and used gallons?
A. No sir, just let it settle down.

A. P. RABITO Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. BECKWITH:

Q. Mr. Rabito, you keep a fish-stand in the Poydras market?
A. I do sir.
Q. Do you use the water of the water works Co.?
A. Yes sir.
Q. Have you a meter?
A. No sir, I used to have one.
Q. What facilities or openings did you have in use previous to the 23rd. of January 1899,—say for the last years 1898, 1897 & 1896?
A. I used to have, in 1896, a meter in the market at that time.
Q. And how much per thousand gallons did you pay?
A. I don't remember exactly; I believe thirty cents.
Q. Thirty cents a thousand gallons?
A. Yes sir; I have here a memoranda of what bills I have been paying—those are receipts from the water works company.
Q. Where are your receipts?
A. Well, I have no more receipts but them here. I have the receipts in a book, where the young man gave them.
410 Q. You have a memorandum made of the amount you paid?
A. No sir; I have a regular receipt book which we pay everybody that comes there to collect and we get receipts in that book.
Q. The amount you have been paying?
A. Yes sir; that's a copy.
Q. Well you also have water at your residence?
A. Yes sir.
Q. Is there a meter there?
A. No sir.
Q. What are your facilities for using the water at that place?
A. I had a closet, also a hydrant in the rear of the house, and last year they gave me permission to put one in the front for my garden, for the same price; you might call that three openings, but that was only one at a time; that large bill you see there, is for the fish-house; I have a small refrigerator at the market, and have my own facilities for keeping my fish, and packing them to ship.
Q. How long did you have a meter?
A. Since 1885, up until the 6th of February.
Q. You had a meter from 1885 to February last?
A. Yes sir.
Q. And those are the payments that were made on the meter?
A. Yes sir, excepting the last one for $150.00.
Q. At thirty-five cents per thousand gallons?
A. No sir, that was only fifteen cents at the refrigerator. The market meter was thirty cents.
Q. The market meter was thirty cents?

A. Yes sir.
Q. And the other fifteen cents?
A. Yes sir.

Counsel for plaintiff offers in evidence detailed statement produced by the witness, in connection with his testimony.

Counsel for defendant company object to the introduction of that document in evidence unless the proper foundation is laid for it, and unless it be shown what has become of the original receipts.

411 Q. Have you got the original receipt signed by the collector?
A. I can go for my book sir.
Q. We mean the original water-works bill?
A. I can't produce them, but I can produce the receipts that the collector of the water works company gave me, and if necessary can get my cash book to show that certain amounts have been paid.

By the COURT: I understand you to say that you never took a receipt upon the company's bill?
A. No sir.
Q. But simply in your own receipt book?
A. Yes sir.
Q. You never took the receipts of the company at all?
A. No sir, they gave me the bill sir, as this, and I asked them to give me the receipt in my book.
Q. Where are the bills like these?
A. I don't know what became of them; we don't keep one-half of them.

By Mr. KRUTTSCHNITT: You say you didn't keep half; haven't you got some of them?
A. I couldn't promise you; I think the company's collector—the receipts from him ought to be sufficient.

Counsel for the water works company states that they don't dispute the fact that witness paid this money, but that it is necessary to ascertain what he paid it for.

By the COURT: What is that statement you have, Mr. Forman?
By Mr. FORMAN: Just the gross amount paid from month to month.

By the COURT: You can't ascertain the number of gallons. I think it is admissible to show the amount paid from month to month to the company.

By Mr. KRUTTSCHNITT: It is admissible only for the purpose of showing that amount of money has been paid. And we
412 must object to the introduction of this document for it is not the best evidence of the charges made by the water works company, and the purposes for which those bills were rendered, and we demand the production of the original bill in order to ascertain from them the quantity of water furnished to the witness, and the reasons why those particular charges were made.

By the COURT: Let us ascertain what can be proven by them.

By Mr. FORMAN:

Q. Have you in your possession, or under your control the bills rendered by the water works company to you, stating the number of gallons, and the rates per thousand gallons charged, and the index of the meter according to the statement which I now exhibit to you?

A. I have certainly some of those bills on file, but it — so troublesome to find them, and I didn't find them. I wouldn't promise you getting all, but I could get you some.

By the COURT: You had better get those you can find.

By Mr. FORMAN: I ask you to produce all you can find, and ask leave of the court to withdraw the witness until he can bring the receipts which he may be able to find.

W. P. KIRCHORFF Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Kirchoff what is your business?

A. I am a chemist.

Q. Where is your place of business?

A. No. 27 Conti, between Chartres & Decatur.

Q. How long have you followed that profession?

A. Since 1881.

Q. Do you use the water of the water works Co.?

A. Yes sir.

413 Q. Previous to the 23rd. of January 1899, how many years have you been using it?

A. About five years, except that I was in another business, and of course used it there besides. I used it at the sugar refinery.

Q. For what purpose?

A. For refining sugar.

Q. Did you pay for it by the meter?

A. No sir, didn't have a meter. That was up from 1881, until about 1885, or 1886.

Q. You never have had a meter?

A. No sir.

Q. What were your facilities for using the water—how many openings, and of what size and dimensions, at any time?

A. Well, when we went into the sugar-refinery business, we took it from the branch of the main right from the pump.

Q. How did you—how much did you pay annually? Have you any receipts?

A. Well, now I don't recollect that now.

Q. Have you any receipts?

A. I haven't hunted them up.

Q. You were subpœnaed in this case and commanded to produce them in court?

A. I think it was from 1885 when I used the water at my labora-

tory. I was in a different business then; it is some time ago; it was at the refinery.

Q. You were commanded to produce those receipts from 1878 to 1899?

A. I never was informed of that.

Q. It is printed——

A. Not on my subpœna.

Q. Yes sir, if you will get it you will see. (Witness produces a document)

Q. That is an attachment?

A. That's all I have.

Q. Haven't you any water receipts with you?

A. I have one for 1895.

Q. Is that all?

A. I received no papers Mr. Forman—only an attachment.

414 Q. Have you any receipts from the water works company at all?

A. One for 1895.

Q. Is that the only one?

A. Yes sir; I never received any papers. I thought simply it was on account——

Q. Where is the one of 1895 please?

A. I can't find it now.

Q. Mr. Kirchoff excuse me, but a good many gentlemen are waiting; I will be obliged if you get the information we want, as to what receipts you have, and what rate you have been paying?

A. From what years?

Q. From 1878 up to 1889.

A. I was North in 1878.

Q. Then from 1881 up to the 1st. of January 1899?

A. Yes sir.

Q. So many years as you have been paying for water, and how much you have been using?

A. Yes sir, I will try to get that.

Witness withdrawn.

JOHN S. ANDERSON, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business or occupation?

A. I am president of the Consumers' Seltzer Company, 612 N. Rampart St.

Q. Do you use the water of the water works company?

A. Yes sir.

Q. How long have you used it?

A. We started in 1891 on the 25th. of July.

Q. You have a meter?

A. No sir; they made us put in a meter in 1893—forced us to. I think it is 1892 or 1893, I am not positive.

Q. What meter did you get?

A. We bought a meter from the N. O. Railway & Mill Supply Co. I don't know the name of it.

Q. Are those the receipts for water you paid?

(Counsel exhibits receipts.)

A. Yes sir, those are the receipts.

Q. I notice a number of those have not been signed; can you explain that?

415 A. No, the secretary is in the office all the time; he takes the receipts on the receipt book.

Q. The receipts are on the receipt book?

A. Yes sir.

Q. Those are all paid?

A. Yes sir.

Counsel for plaintiff offers in evidence the forty-seven (47) bills and receipts produced by the witness showing a rate of twenty-five cents (25c.) per thousand gallons.

Q. Do you remember what your rates were before you put in the meter?

A. Not positively but pretty near; we paid at the old firm seventy or seventy-two dollars, and we increased the business and moved away from there to Rampart & Toulouse, and our business increasing we used more water, and they increased the rate on the use; but I can't tell how much. Mr. Gardner came along one day and looked at all the faucets and asked me some questions; he thought we might let certain faucets run all the time, and that we would use more water than we were paying for; I told him we didn't run it—didn't waste anything. Well, he said You are not paying enough for the water, and he says We couldn't stand that rate. I says, What do you want; he says, Put in a meter, and I says, You make us a price by the year. But no, he wanted a meter. I asked him where I could get one, and he said, he didn't know particularly, but there was one company in New Orleans, the New Orleans Railway & Mill Supply Company who had them, but didn't insist that I should buy it from them. I bought a meter and put it in, and our rates got lower; the water came cheaper to us by reason of the meter. The following year the collector came around and had some notice, I think it was, and he wanted us to take the meter out and give us a contract for the year. I said, Oh no, not now; the meter is going to stay there, and we insisted upon keeping the meter as we were getting along right well with it. Being that our business has been increasing, I thought it was according to what we were paying,

416 and I was willing to sign a contract and did sign it for $125.00 a year.

Q. For $125.00 a year?

A. One hundred and twenty-five dollars yes sir. I knew all along that the law would protects us in the fifteen cents per thousand gallon rate, because I had found out there was two test cases and they

could not charge over fifteen cents; but I didn't care to go into court, and preferred paying ten cents more, and keeping out of court.

Cross-examination by Mr. BECKWITH:

Q. Who told you about those test cases?

A. I heard different parties tell it. I don't know now the name, but they gave one party who owned a rice-mill, and the court decided in its favor.

Q. He didn't tell you it was where a certain quantity of water was used—where a large quantity of water was used?

A. They did; but I came under the heading of that; I use a good deal of water.

Q. You would like to have the water for nothing, wouldn't you?

A. Yes sir, if I could get it I would take it.

Q. What is your output of seltzer?

A. I couldn't say exactly.

Q. Well, about?

A. About fourteen to sixteen hundred bottles.

Q. Quart or pint bottles?

A. Forty-four-ounce bottles.

Q. How many horses have you on the place?

A. We have twenty-eight.

Q. Twenty-eight horses?

A. Yes sir.

Q. How many wagons?

A. I think about seventeen wagons; we run thirteen of them.

Q. Well, how many openings have you got on the place?

A. Well, we have a good many; I could make a count, almost close to a dozen. But the pipe is so small, that if we open the lower cock it would prevent the water from going any further.

417 We only use a three-quarter-inch pipe.

Q. That is the case anywhere is it not, where they use a quarter-inch pipe the lower cock takes the water?

A. Yes sir.

Q. You use the water to wash bottles, or don't you wash them?

A. We wash bottles, naturally, but we use cistern water also for that. We have a five-thousand-gallon cistern there also.

Q. Your cisterns have been full all this dry weather?

A. No sir, but once in a while, but it don't last long.

Q. Five thousand gallons of water don't go very far in that establishment does it?

A. No sir, not very far; you can see what we use from the bills there.

By Mr. FORMAN:

Q. This water is filtered?

A. We filter it first and run it into the cistern and let it stand from one day to forty-eight hours to settle, and when it is very muddy we use a handful of alum to 1200 gallons of water. We

can't use any but very clear water for seltzer. It must be clear as crystal before we can use it.

By Mr. BECKWITH:

Q. It seems it ain't fit to drink in any shape at all, and yet people have drank it in seltzer?

A. I think that is the only water we have here; after the mud is taken out it is clear, after being filtered and drawn out it is clear water. We have to settle it in the cistern and leave it stand long.

Q. Before you had filters that was the way you did; run it into the cistern and put alum in it?

A. Yes sir.

Q. All the mud is taken out of the water before you get it into the bottles?

A. Yes sir.

418 EUGENE MAY, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep a drug store?

A. Yes sir.

Q. How long have you been keeping it?

A. Since 1884.

Q. Do you use the water of the water works company?

A. Yes sir.

Q. You have a meter?

A. No sir.

Q. What are your facilities for using the water?

A. What are my facilities?

Q. Yes, how many openings or faucets have you?

A. I have quite a number in my store, proper, and I have one in my warehouse.

Q. One in your warehouse? How much do you pay there for it?

A. Twelve dollars in my warehouse.

Q. Well now, in your store; how many openings there?

A. I don't know sir.

Q. Can't you reflect and count them?

A. Direct openings—about three direct ones. I have quite a number in this way. I precipitate the water on the fourth floor. I then pump the water into a wooden cistern, and it again precipitates of its own accord. The water, as then used for soda water, is filtered through felt filters. I have washstands in my office and probably two other washstands that I draw from this cistern.

Q. Well, how much are your water rates?

A. $200.00 a year.

Q. $200.00 a year?

A. Yes sir.

Q. How is that rate arrived at?

A. When I received the summons from the court I was unable to find my books prior to 1892. I have had to move a great deal

and in some way my ledger had been misplaced. Prior to that time my ledger showed that since 1892 I have paid $200.00 a year for the store at the corner of Canal & Chartres streets. If my memory serves me right, I think when I started I paid $60.00. One
419 day I received a visit from a representative of the water works company and he informed me that I would have to put in a meter. I said, Oh no, I have no faith in meters; let's make a flat rate. He said, No sir, you must put in a meter. I bought two meters. At some times I had two pipes coming in, and I tried the experiment for about two weeks, and I found that my meters got out of order, and found it was very expensive to repair them. I sent down to the office of the water works company a man with authority to close at any price on a flat rate. I have no faith in meters, and where there is no faith what is the use of attempting to do business? The gentleman came down and said, they agreed to furnish me with water at the rate of $200.00 a year; that was satisfactory, and I drew my check and sent it to them. Since that time I have paid that amount yearly. But a short while ago I chanced to meet Mr. Gardner on Chartres street, and I complained to him that my water bill was too much. He said, Let's put in a meter. Oh no, I said, no meter for me. He says, They are used universally, and I wasn't aware of that fact. I said, No no, send me my bill for the $200.00 flat rate, and that is what I pay. I preferred to pay $200.00 flat rate than to depend on the meter, in which I had no faith and which I didn't understand.

Q. Well, now have you any means of ascertaining how much water you use on the average in a year?

A. No, sir; I was economical, and I had first-class faucets at the time the gentleman called at my store to put on a meter. I wanted that gentleman to go with me and inspect the system in vogue. He said no, they were satisfied that I didn't pay enough for my water, and the meter must go in.

Q. That was when you were paying sixty dollars?

A. I think so, yes, sir; I have no record. That is a supposition. I base that on my recollection.

420 Q. I understood you to say that your water was delivered on the third floor?

A. Yes sir; the fourth floor. I handle it now from the fourth floor.

Q. And up there you purify it?

A. Yes sir.

Q. By coagulants?

A. I use a solution of chloride of iron. I precipitate the water, and then pump it into an immense wooden cistern that I have, and iron tank.

Q. How is the pressure up there calculated, or do you have a pump?

A. We have no difficulty at all.

Q. Plenty of pressure there?

A. I get all the water I want.

Q. At all times, day and night?

A. Yes sir, the people I have employed have made no complaint. We run the thing at night; the solution of iron is put in at night and in the morning the water is perfectly clear, and in the morning the men pump this water into the smaller cistern, and we have an electric motor there.

Q. It is pumped then——

A. From the iron tank that has been filled during the night.

Q. Then it is not running into the tank from morning until night, from ten o'clock in the morning until three in the afternoon?

A. No sir, we don't run it during the day.

Q. When this water-works inspector reported that you were using too much water, did he give any reason?

A. No sir, I don't know that he did.

Cross-examination by Mr. BECKWITH:

Q. You carry on business of a drug store with a soda fountain attached?

A. Yes sir.

Q. Is that soda fountain sales large or small?

A. They are very much less than they used to be.

Q. I guess that is true of all kinds of sales; is the quantity
421 considerable or small?

A. No sir; I don't think.

Q. You don't think it is either considerable or small?

A. Well, it is not small, and I don't regard it as considerable.

Q. Well, about how many fountains do you use up there?

A. I use the continual process, not the portable fountain.

J. M. VILLAVASO, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Villavaso, do you use the water of the water works company?

A. I do sir, at my residence.

Q. How many openings have you?

A. Well, here is one bill—the bill has been uniform for five or six years?

Q. Thirty dollars a year?

A. Yes sir.

Q. How many openings have you?

A. Nine or ten openings.

Q. Sir?

A. Only nine or ten.—The bill will state. Two baths; two water-closets, a hydrant, boiler, sink in the kitchen and a small filter.

Q. Has it always been uniform?

A. Ever since I have used it.

Q. You represent as agent, the succession of the Gallier court.

A. Yes sir.

Q. What is the water supply there?
A. Well, eighty dollars for the several years past. Before that time, it was more, but we had to dispense with the flushing closets, and itwas reduced.
Q. What facilities are there for which you pay $80.00?
A. Well, there is a hydrant, and three urinals. There are sixteen or eighteen washstands in the offices; those are the facilities there.
Q. You have no meter?
A. No, sir; never had any meter.
422 Q. Do you pay water rates for any other dwelling?
A. For one or two other buildings, but they have been uniform, the rates.
Q. How much?
A. A store on N. Peters street, eighteen dollars; hydrant, urinal and washstand for washing bottles. Now I pay for another building—for an office building on Commercial place, where there is a hydrant and urinal, fifteen dollars all the time, and the other house the tenants pay their own water works.

Counsel for plaintiff offers in evidence the receipts produced by witness, in connection with his testimony.
No cross-examination.

A. P. RABITO, Esq., recalled for plaintiff.

Direct examination by Mr. FORMAN:

Q. Have you, since you were on the stand this morning, made a search for your bills rendered by the water works company?
A. That's all I could find.

Counsel for plaintiff offers in evidence four receipts produced by the witness, and now renews his offer of the detailed statement of what witness has paid.
By Mr. KRUTTSCHNITT: You first offer the receipts.
By Mr. FORMAN: Yes sir.

Cross-examination by Mr. BECKWITH:

Q. You stated you had a fish stall; is it in the market?
A. One in the market sir.
Q. You retail fish there?
A. Yes, sir.
Q. Any other place where you job them?
A. I don't do any jobbing at all.
Q. What openings have you in the market?
A. One opening.
423 Q. What is it?
A. Just a hydrant to clean out the place with.
Q. What size is it?
A. A three-quarter-inch, I think; I am not positive.
Q. Now your other place is on Dryades street. Have you an ice machine there?

A. Yes sir, one ice machine; only half of it is used for making ice.
Q. Is it a De Vergne machine?
A. No sir, it is a Stillworth machine.
Q. It is operated by a pump?
A. Yes sir.
Q. Do you use the water to cool the coils?
A. Yes sir.
Q. When did you first have a meter on that?
A. If I am not mistaken it was in March 1895.
Q. Well, you had the meter taken out?
A. Yes, I had asked to have it taken out after the freeze. We had to buy another meter and I refused to buy it.
Q. Well, the use of the water is very considerable is it not to cool the ammonia?
A. I was disappointed when I bought the plant out. They said it wouldn't use over three thousand gallons of water in 24 hours, but it used nearly five thousand gallons.
Q. Don't they use more water in warm than in cool weather?
A. Yes sir.
Q. Was that 3,000-gallon rate for warm or cold weather?
A. No, warm weather. It is not the fault of the water works company.
Q. The object of the water is to take the heat out of the ammonia?
A. Yes sir.
Q. That is the rate for that purpose, that the water works company was charging you?
A. Yes sir.

424 RAOUL BONNOT Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Bonnot, do you use the water of the New Orleans Water Works Company?
A. I do.
Q. Have you a meter?
A. I have.
Q. How long have you been using the meter?
A. About three years.
Q. What is your business?
A. Undertaker.
Q. What rate do you pay per thousand gallons?
A. Thirty-five cents a thousand.
Q. Have you your receipts?
A. Well, I have only the last receipts that I brought with me, but I got——
Q. Has your rate been thirty-five cents per thousand all along?
A. Yes sir.
Q. Before you had the meter, did you use the water of the water works company?
A. Yes sir, for the last forty years.

Q. What were your rates before?
A. For the last fifteen years I was paying $97.00.
Q. Well, what were you paying in 1876 and 1877?
A. It was sixty dollars.
By Mr. KRUTTSCHNITT: Do you know that; 1876?
A. Yes sir.
Q. Sixty dollars?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. When was that undertaking establishment established?
A. That is about sixty years ago.
Q. You always had the same number of horses and carriages?
A. No sir.
Q. You have got more now than you had in 1873?.
A. Yes sir.
Q. Well, taking for the last five years, what is the number of horses that you have?
A. For the last five years?
Q. Yes.
A. Eighteen to twenty.
Q. How many carriages?
A. How many horses—everything in sight?
Q. Yes.
425 A. About seventeen or eighteen.
Q. Well, how many openings?
A. Three openings.
Q. Where are they?
A. One for the trough downstairs for the horses; one for the bath-house, and one in the kitchen.
Q. You have how many baths?
A. Only one, that, we use in summer only.
Q. Well, you have hot water?
A. No sir.
Q. What do you use in the kitchen for the sink?
A. We just bought that. I had three or four barrels there. We put in the barrels, and next day begin using them.
Q. What I asked you was, if your bath was hot or cold?
A. Cold all the time.

By Mr. FORMAN:

Q. You wash your carriages with this water?
A. I do.
Q. Is it good for washing carriages?
A. No sir.
Q. How?
A. We have got to wash them over with cistern water.
Q. Why?
A. Because carriages cost eleven hundred or twelve hundred dol-

lars apiece; we can't leave any mud on those carriages, and we have to wash them with cistern water; not now, because we have no cistern water now.

Q. I know; but when you have plenty of it?

A. No sir, we have to wash them off with rain water.

Q. Why?

A. It is too muddy.

By Mr. BECKWITH:

Q. You use the river water to take off the bulk of the mud, and then wash the balance off with rain water?

A. Yes sir, like fine furniture.

Q. How much rain water do you think you use in washing carriages?

A. I have a cistern about three or four thousand gallons.

Q. Can you approximate how much it takes to wash a carriage?

A. Well, we throw about ten or fifteen buckets of rain water on it afterwards.

426 Q. You use a hose, I suppose?

A. No sir, never did.

Q. You observe the rules then; some of them don't.

A. We use sponges.

GEO. S. KAUSLER Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Kausler, you are an insurance agent?

A. Yes sir.

Q. You use the water of the water works company?

A. I do.

Q. At your place of business?

A. At the residence also.

Q. Have you a meter at either place?

A. No sir.

Q. What are your facilities at your place of business for using the water?

A. I have a hydrant, a wash-basin and a urinal.

Q. For the years previous to 1899, what has been your rates?

A. For the last four years it has been fifteen dollars. I don't know what it was before that time.

Q. What are your facilities at your residence?

A. A hydrant, a bath-tub, and I tapped the hydrant for a little filter for drinking water.

Q. What are your rates there?

A. Sixteen dollars for the present.

Q. And for the last four or five years?

A. Last year it was sixteen dollars. Before that I rented a house and didn't pay the bills myself. They were charged in my name but the tenant paid the bill.

Q. Do you know how much it was?

A. I don't know for the last four or five years, what it was; the last bill that I have was a bill for 1895; it was then twenty-two dollars. My house was then occupied as a boarding-house. I was renting it at the time.

Q. What facilities were there; do you know?

427 A. At that time, a hydrant and a bath-tub.

Counsel for plaintiff offers in evidence, the receipt produced by the witness in connection with his testimony.

Cross-examination by Mr. BECKWITH:

Q. Where is your place of business; on what street?
A. 307 Carondelet street.
Q. What is it—what business? An insurance office?
A. Yes sir.
Q. On the ground floor?
A. Yes sir, on the ground floor.
Q. What openings did you have there—a yard hydrant?
A. Yes sir, a urinal, a wash-basin in the office.
Q. A urinal——
A. A hydrant and wash-bowl
Q. What kind of urinal; one of those perforated tubes?
A. No sir, one of these simple basins.
Q. Running all the time?
A. Pretty much all the time.
Q. Now, your house, where is that situated?
A. At 1721 Carondelet.
Q. What is the number of rooms in it?
A. In the house—you mean including the parlors, bed-rooms and all?
Q. No, the rooms in the house—the habitable rooms?
A. There are about twelve rooms; there are only four rooms occupied as bed-rooms however.
Q. Now, at the time you occupied the premises—you occupied it last with your family?
A. Yes sir.
Q. And what time did it pass into a boarding-house, what year?
A. I don't remember exactly; about ten years ago. The exact date I don't recollect,
Q. You know how many occupants there were in the house?
A. When it was a boarding-house?
Q. Yes.
A. That varied considerably; I was there myself and occupied the third floor—most of the house, and took the entire floor. I boarded myself; but the number of boarders varied from

428 eleven—ten at the least, at any time, I suppose.

Q. Is the baths hot and cold?
A. Only cold.
Q. Any kitchen-range connection?
A. No sir.

Q. What was the cistern capacity there?
A. My cistern is about a three-thousand-gallon cistern.

Counsel for plaintiff offers in evidence Mr. Bonnot's receipt which he has just produced, marked "——"

J. E. PENN Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Penn, what is your occupation?
A. I am in the saloon business, and furnished rooms.
Q. Where?
A. At the corner of St. Charles & Poydras streets.
Q. Have you more than one place?
A. That's all, one place.
Q. Do you use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. What facilities have you?
A. I have three or four faucets.
Q. You have a meter?
A. Yes sir.
Q. How long have you had the meter?
A. Well, the meter was in the house when I took charge about two years and a half ago.
Q. How much have you been paying?
A. Well, I can't tell you that; the bill generally runs about $2.00 a month; I didn't always pay attention to it. The barkeeper pays it.
Q. Haven't you got the bills?
A. No sir I haven't any. I take receipts for nearly everything else but that. We just throw it down. The barkeeper pays the bills.
Q. Have you made any search for your receipts?
A. Yes sir; I asked the barkeeper the other day when I got notice to come to court; he said he couldn't find any. They collect every month, you know.
Q. You don't know what your rate per thousand gallons is?
429 A. I never noticed; my meter froze up on me and broke all to pieces during February. I didn't want to put in a meter, and went to see Mr. Gardner to make a flat rate with him. I told him what my bill averaged, and he told me I would not have to get one. He said he would send the inspector up, and when the inspector came on he looked at everything, and he told me to come up at one o'clock that evening at the office; I went down and Mr. Gardner told me my water works would amount to ninety dollars a year. I says I have been there two years and my meter averaged about two dollars a month, and I hated to be put to the expense of buying another meter, and I wouldn't object to paying a few dollars more on a flat rate. He advised me to get a meter. So I got a

meter and put it in, and my bill has averaged about $2.00 a month until about two months ago——

Counsel for defendant company object to that part of the testimony relating to 1899.

Q. Previous to the 23rd of January 1899 you had a meter?
A. Yes sir.
Q. And your bill averaged two dollars?
A. About that.
Q. You don't know what the rate per thousand gallons were?
A. I never paid any attention to it, no sir.

Cross-examination by Mr. BECKWITH:

Q. You have a bar-room in your house?
A. Yes sir.
Q. What length of counter have you there?
A. I think it is twenty-four feet; I am not positive.
Q. You say two or three faucets—what are they; you have a yard hydrant?
A. Yes sir. I have a filter that I have attached in the yard, and all the water passes through that and fills my cistern and then I use the water from the cistern.
Q. I ask you what do you take water from the cistern for?
A. For cooking purposes, and in the bar. I use it for the rooms.
430 Q. How many rooms in the house?
A. About eighteen or twenty rooms; eighteen I suppose.
Q. Boarding-house?
A. Well, I don't furnish any meals, but just rooms.
Q. How many washstands?
A. Well, a washstand in every room. No stationary washstands, and not connected.
Q. You have got a kitchen range connected?
A. No sir.
Q. A bath?
A. I have a bath, yes sir, tapped into the cistern.
Q. Tapped into the cistern; you filter it.
A. Yes sir.
Q. Was that a hot or cold bath?
A. No sir, cold only.
Q. What fixtures have you got in the bar-room?
A. Nothing except a pipe running from the cistern.
Q. In washing glasses &c., have you got anything for that?
A. I have a washstand in the rear of the bar with a three-quarter-inch pipe.
Q. For washing bottles and glasses?
A. Yes sir.
Q. How many occupants on an average in your house?
A. That's pretty hard to tell. In the winter, sometimes I have

every room full, and in the summer there may not be two people in the house for a week.

Q. Can you approximate it?

A. I couldn't very well. Some week- you may have twelve, fifteen, eighteen or twenty people in the house, and the next week maybe you wouldn't have four; during the last three months, I didn't have anybody.

Q. You live in the house yourself?

A. Yes sir.

Q. Yours is the only family living there?

A. That's all, my wife and servants.

Q. Any horses?

A. No sir.

431 ROBERT HICKS Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?

A. Restaurant and lunch counter, 450 St. Charles.

Q. You used the water of the New Orleans Water Works Company in 1898?

A. Yes sir.

Q. What are your facilities for using it?

A. I have two faucets.

Q. Two faucets?

A. Yes sir.

Q. How much do you pay a year?

A. Fifteen dollars.

Counsel for plaintiff offers in evidence a receipt for 1898 produced by witness, and marked "—"

Cross-examination by Mr. BECKWITH:

Q. What is your business—what business do you carry on in your place?

A. Lunch counter.

Q. And bar?

A. No sir.

Q. What is the number of rooms?

A. I haven't any.

Q. Is your lunch counter on the street or on the sidewalk?

A. No sir, it is in a house at the corner.

Q. Well, you must have one room at least?

A. (No answer.)

Q. You have a kitchen-range connection?

A. Yes sir, hot and cold water.

Q. Any baths?

A. No sir, I have a filter.

Q. A sink?

A. Yes sir.

Q. How many, one?
A. One.—I made a mistake about the faucets; there are three, one leading from the filter.
Q. Any urinal?
A. No sir.
Q. You don't live on the premises with your family do you?
A. No sir, it is just a small place.

PHIL. R. RICE Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Rice, do you use the water of the water works company at your place of business?
A. Yes sir.
432 Q. You have a meter?
A. We did use a meter; we don't use it now.
Q. When did you use a meter?
A. Three years ago, I think.
Q. What rate per thousand gallons were you paying?
A. We paid, I think, about—we tried that meter about a month and took it out; it didn't work right—I am mistaken about a month, it may have been several months.
Q. Do you know the rates you were paying?
A. $100.00, and we got a notice that we would have to pay $150.00, and we advised them to put in a meter and that was not satisfactory, and they cut the water out entirely. We are now using a well.
Q. For what facilities did you pay $100.00?
A. For three washbasins upstairs on the different floors; one urinal, a very large one downstairs, and a washbasin downstairs; a faucet for drawing water for any purpose—a gas engine too.
Q. When you used the meter do you know how much per thousand gallons you paid?
A. No sir.
Q. Can you find your receipts?
A. I don't think I will be allowed to search for them now. Our business is in the hands of a receiver, and I have no access to the books and papers etc. I asked them if they would let me have the receipts, and they said they would let me know later.
Q. Mr. Fuchs is the receiver?
A. Yes sir.
Q. He has got the receipts?
A. Yes sir, all the receipts of the business.
Q. Did you ever use the hydrant water in your dwelling?
A. Yes sir.
Q. Where?
A. At Audubon place, No. 6.
Q. What were your facilities for using the water there?
A. Two bath-tubs, three stationery washstands, three water-closets, kitchen sink, and pantry sink, and a filter.

Q. Did you have a meter there?
433 A. No sir.
Q. How much did you pay there previous to 1899, fifty dollars?
A. Fifty dollars a year, yes sir.
Q. How was your pressure there from nine or ten o'clock in the morning until evening or afternoon?
A. The pressure is very light in the morning. After that we get all the water we want; sometimes it wouldn't force up to the third tank; that tank was as high as the house, and it wouldn't force the water up there in the morning as a general thing; but sometimes it would. I think that was caused by the plugs being opened in the neighborhood.—The inspector told me so.
Q. Did you ever see the plugs opened up there?
A. No sir.
Q. Now is it not a fact that in the neighborhood of Audubon place there were no poor people to be supplied with water by plugs?
A. Very few poor people up there.
Q. Are there any cross-streets there?
A. No sir, not in our place, and we run back several thousand feet.
Q. The nearest cross-street below is Calhoun street, is it not?
A. Yes sir.
Q. That is nearly a quarter of a mile distant, is it not?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. What business were you carrying on at your place of business?
A. Hardware.
Q. How many—where was it?
A. 89 & 91 old number; the new number is 412 Camp and Natchez alley.
Q. How many employees?
A. On an average of about seventy-five.
Q. You were making machinery?
A. Making tinware.
Q. Tinware?
A. Yes sir.
Q. Any wagons or horses there?
A. Yes sir; but we didn't keep them there; we kept them uptown.
Q. What sort of urinal did you have?
A. It was a perforated pipe.
Q. With slabs running along?
434 A. Yes sir.
Q. How long was it?
A. Three feet each.
Q. Making six feet in all?
A. Yes sir.

Q. The hydrant openings on the ground floor were two you say?
A. A washstand and a faucet for going out and getting a bucket of water or something of that kind.

F. JAUBERT, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Jaubert, what is your occupation?
A. Wholesale dry goods.
Q. Did you, previous to 1899, use the water of the water works company?
A. Yes sir.
Q. For how long?
A. Well, since I started in business in 1896.
Q. You have a meter?
A. No sir.
Q. What are your facilities—openings?
A. Well, a faucet, a urinal—two openings.
Q. What have you been paying?
A. Eighteen dollars a year.
Q. Uniformly all the time?
A. All the time.

Cross-examination by Mr. BECKWITH:

Q. Where is your place of business?
A. Magazine & Common sir.
Q. What is the number of adult persons in your place, including servants and clerks?
A. I don't understand you.
(Question repeated.)
A. About eight or ten.
Q. Do you have any horses or mules or carriages and wagons?
A. No sir.
Q. Any water-closets?
A. We have one closet, but no water in it.
Q. Urinal?
A. Yes sir.
Q. What kind of urinal is it; is it a basin or a perforated tube?
A. Well, if we open the faucet to the urinal it will run.
Q. But where is the urinal?
A. It is downstairs.
Q. What I want to know is, what kind of a urinal it is; is it a perforated tube?
A. No sir, it is a small piece of pipe about three or four inches long, perforated of course. If you open the faucet the water
435 goes; but generally we don't use it.

J. C. SCHAAF Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Baker.
Q. Do you use the water of the water works Co.?
A. Yes sir.
Q. You have a meter?
A. No sir.
Q. What facilities or openings have you for using the water?
A. I have four.
Q. How much did you pay a year previous to 1899?
A. I have been paying for some years forty dollars, and up to the last three years when the water works company reduced it to thirty-five dollars, and I am perfectly satisfied with the rate. That is about ten cents per day, and I think it is worth that to me.
Q. It was forty dollars and they reduced it for the last three years to thirty-five dollars?
A. Yes sir.
Q. Where do you live?
A. 748 S. Rampart street.
Q. How many barrels of flour do you use a day?
A. That depends; I may use four, or five or six; right now I use more than usual. It depends how the business goes.
Q. Well, on an average?
A. Well, I don't use during the summer—about four barrels. I don't know exactly; I couldn't tell that.
Q. How many barrels did you use in the year 1898?
A. I didn't keep any record about that.
Q. How many on an average?
A. Well, in the year 1898 I consider about four barrels.
Q. Four barrels a day?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. Have you any horses or wagons on the place?
A. I have a horse and wagon, but it is not on the premises; it is in the stable.

436 By Mr. FORMAN:

Q. You have water in your stable?
A. I have nothing to do with the stable—I pay for both.

PETER BRAUN Esq., sworn for plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. Where do you live?
A. Residence?
Q. Yes.

A. Villere & Tulane avenue.
Q. Where is your place of business?
A. 406 St. Charles street.
Q. And your occupation?
A. Bar-room.
Q. Do you use the water of the water works company at your bar-room?
A. Yes sir.
Q. You have a meter?
A. Yes sir.
Q. For the year 1898 and previous, how much did you pay per thousand gallons?
A. I have paid thirty-five and forty cents per thousand gallons.
Q. Have you got any receipts, please?
A. Yes sir, for 1898—except two receipts for previous years I couldn't find.

Counsel for plaintiff offers in evidence nine (9) receipts produced by the witness, showing that he has at various times paid thirty-five cents and forty cents.

Q. I understand that is all the receipts you have?
A. All that I could find of previous years—I have some for 1899.
Q. I understand the bill dated February 1898, was for forty cents—were the balance previous to that forty cents?
A. I really don't remember.
Q. You don't remember what they were previous to the time they brought it down to thirty-five cents on June 30th?
A. The meters averaged about pretty nearly the same thing, one dollar a month all through.
Q. I am speaking of the rate per thousand gallons?
A. I never paid any particular attention to it.

Cross-examination by Mr. BECKWITH:

Q. What business do you carry on?
A. A bar-room.
437 Q. Where is it?
A. 406 St. Charles St.
Q. What is the length of your bar?
A. Well about thirty-three feet as near as I know.
Q. What openings have you there?
A. Two, one beer pump and another faucet.
Q. No wash-basins?
A. No sir.

By Mr. FORMAN:

Q. Previous to the use of a meter, did you use the water?
A. No sir, I did not.
Q. Did you ask for a rate after the meter—without the meter?
A. No sir, the meter was there when I took possession of the premises.

Q. You never asked for a rate without the meter?
A. No sir, I paid on it—$1.15 a month right straight along.

CHAS. BEDELL, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Iron-worker—on Rampart between Canal & Common,—1608 Rampart.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. In your business?
A. Yes sir.
Q. You have a meter?
A. No sir.
Q. What are your facilities for the use of the water?
A. We have a gasoline engine; I have been using it only for this year—for 1899.
Q. Not previous to 1899?
A. No sir, January 9th, this year.

Counsel for plaintiff offers in evidence receipt dated January 9th, 1899 produced by the witness.

Q. Do you use the water of the water works company at your residence?
A. No sir.

Cross-examination by Mr. BECKWITH:

Q. What business do you carry on?
A. Ornamental iron works; structural work.
Q. Do you remember when you made your application for water?
A. Yes sir, I believe it was about December.
438 Q. How many openings have you got?
A. Well, I have one faucet, and I have made above that another connection that goes up to a tank with an elbow on top which fills that tank.
Q. You use it in the jacket of the gasoline engine?
A. Yes sir.
Q. Were you not offered the use of a meter?
A. Yes sir; when I made my application I saw Mr. Gardner and asked him what it would cost me for water, and he asked me how much I consumed; I said I couldn't tell exactly. He says, Well you get a meter, and we will let it stand for a month and see what is consumed, and we will charge you accordingly. I thought, well, I will let the meter go, and don't bother about it. And I told him I wanted the price for a year. He said, $40.00, and I took the water.
Q. What is the power in your gasoline engine?
A. Fifteen-horse power.

Q. You circulate the water all the time in the jacket?
A. Yes sir.
Q. Do you run it all the time?
A. Well, its stopped a couple of months after; gasoline being high at that time.
Q. That is, this jacket supply you let it run to waste?
A. No sir, in the winter time we let it out every night; there is a tank there about four hundred feet. It can be burning in the night; during the summer months we let it out once a week.
Q. And the water from the jacket goes in the tank again?
A. The pipe comes up and goes in the top of a cylinder on the top of the tank.
Q. So the heated water is heated in the jacket and runs up in the tank?
A. Yes sir, that's right.

439 FRED. GROSS Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a baker?
A. Yes sir.
Q. Where is your place?
A. Elysian Fields & Royal.
Q. Do you use the water of the water works company?
A. Yes sir.
Q. Previous to January 23rd 1899, what facilities did you have in your bakery for the use of the water?
A. I had three hydrants, and one extra in the yard which was shut off.
Q. You used it altogether in the bakery?
A. No sir; three in the bakery and one in the private residence, next door.
Q. How many barrels of flour on an average do you consume in your bakery?
A. About four or four and a half.
Q. A day?
A. Yes sir.
Q. What were your rates?
A. Eighty dollars and eighty-five dollars.
Q. How long was it eighty dollars?
A. I don't know; I have some receipts here. I have some when my father was a baker there too.

Counsel for plaintiff offers in evidence twelve (12) receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Your place is on Elysian Fields street?
A. Elysian Fields & Royal, yes sir.
Q. It is a double premises isn't it?

A. Yes sir, a bakery.
Q. How many rooms?
A. How many rooms? Well, about twenty rooms I guess.
Q. What is the portion of the house in use as a bakery—what is that part which is not used as a bakery, what is that used for?
A. Which?
Q. On the premises, 63 & 65, ain't it, old number, Elysian Fields street——
A. Yes sir Elysian Fields street.
Q. I say what was the balance of the house not used as a bakery, used for?
A. Well, it was rented out to a couple of families.
Q. How many persons—adult persons, including servants
440 you have about the bakery and house?
A. Well, in my bakery, I have about seven bakers—seven or eight.
Q. What other number of persons—the application states twenty-two?
A. On the rented side you mean?
Q. Yes.
A. I guess about fourteen, and about four or five children.
Q. Now what openings have you got down in the bakery?
A. Three openings.
Q. Well, you stated that; but what are they. You have a urinal?
A. No sir; one in the kitchen I think, and one in the yard, and one in the bakery—three of them.
Q. That is four ain't it?
A. No sir; there was four, but one is shut off since the 1st of October since I got a meter.
Q. Before that there were four?
A. Yes sir, but now I have three.
Q. How many horses?
A. One.
Q. Any wagons?
A. One wagon and barrouche.

By Mr. FORMAN:

Q. You are using any more water since you had the meter than before?
A. No sir, I am using less now.
Q. How much does it amount to by the meter?

Counsel for defendant company states that they object to any testimony relating to any time since the 1st of October.
By the COURT: It is covered by my previous ruling.

By Mr. FORMAN:

Q. Mr. Gross, I understood you to say that you had three openings, and on the other side you had only one hydrant?
A. Yes sir—about twelve or fourteen people and some children are there; that is shut off since the 1st of October.

Q. It was not shut off when the bills were made?
A. No sir. I found the water rates too high.
Q. When did you first contract for a meter?
A. Last year; they wouldn't give me one.
Q. They wouldn't give you one?
A. No sir.
Q. Why?
A. Well, the representative said it was left to the com-
441 pany; so of course it was so late I had to pay the eighty dollars or shut it out all together.
Q. And then you got one?
A. Yes, so I went and got it.
Q. You went to the lessee?
A. Yes sir.

OTTO HELMANN, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Hellmann you are the keeper of a drug store?
A. Yes sir.
Q. On Poydras corner of Carondelet?
A. Yes sir.
Q. How many years have you been keeping a drug store in the neighborhood?
A. Well, a block away from there, nineteen years.
Q. You were using the water of the water works company at both places.
A. No, sir; in the other place I wasn't.
Q. At the corner, you are?
A. Yes sir.
Q. Was it last year?
A. Yes sir.
Q. You are a member of the city council?
A. Yes sir.
Q. What are your facilities for using the water there—what were they prior to January 1899?
A. Just one faucet downstairs.
Q. What did you use it for?
A. For store purposes.
Q. How much are you paying?
A. Twelve dollars; I have nobody else in the house, you know, myself, just myself.

Cross-examination by Mr. BECKWITH:

Q. How long—when did you open the store where you are now?
A. In September one year ago.
Q. September 1898?
A. Yes sir.
Q. How many—you are sure you had but one opening there?

A. Well, there is one that we use all the time.
Q. But haven't you got a bath-tub?
A. Yes sir, but we use that only once in a while.
Q. Well, and a urinal?
A. No sir; we don't use no urinal.
Q. Or filter?
A. Yes sir, we use a filter.
Q. Sink connection?
A. Yes sir, that is, where the faucet is.

442 JACOB ECKENDORFF Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a baker?
A. Yes sir.
Q. Where?
A. On Bourbon—818 Bourbon between Dumaine & St. Ann.
Q. How long have you been there?
A. Since the last eighteen years.
Q. Have you used the water of the water works Co.?
A. Yes sir.
Q. For how long?
A. Since the last eighteen years sir.
Q. What are your facilities for using the water—how many openings.
A. Three openings.
Q. How many?
A. Three.
Q. How many barrels of flour on an average do you consume in a day?
A. On an average of two and a half during the year.
Q. What have you been paying a year for the water?
A. Well I was paying at different rates; when I started I paid $18.00 and they raised that to $20.00, twenty-four, twenty-eight, thirty-two, and so far as $40.00; and for the last ten years I have paid $40.00.
Q. Have you got your receipts?
A. Yes sir. I have only four receipts there—the four last ones.

Counsel for plaintiff offers in evidence three receipts produced by the witness, one of them for the year 1899 being withdrawn.

Cross-examination by Mr. BECKWITH:

Q. How many openings do you say you have?
A. Three—one downstairs in the yard; one over the bakery on the second floor, and then I made one for a bath-house, but that's not used all the time.
Q. How many horses or heads of stock have you?
A. I got two horses and two wagons.

Q. How long have you had the horses and wagons?
A. Well before I only had one, and since about eight years I got two—about eight or ten years I got two.
443 Q. How many rooms have you got in the place?
A. Twelve including the bakery.
Q. What are those rooms used for?
A. Sometimes I rent them, sometimes they are idle. I am only with my family there now.
Q. You don't live there with your family?
A. Yes sir.
Q. At times those rooms have been leased and at other times they have not?
A. Yes sir, sometimes leased and sometimes not.
Q. Where is the bath-room upstairs or downstairs?
A. On the second floor.

J. B. DUVILH Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Bar-room keeper.
Q. Where?
A. At the corner of Royal & St. Peter—642 Royal.
Q. How long have you been there?
A. Two years.
Q. You use- the water of the water works company in 1898?
A. Yes sir.
Q. How many openings did you have?
A. Three—two last year and one in this year.
Q. Two last year?
A. Yes sir, two; two before and one more since a few months—last year I had two.
Q. How much did you pay?
A. I can't tell you sir. The agent pay- for that. I never pay for the water supply.
Q. Who did?
A. Mr. Bossut-, Armand Bossuth. He lives in the same house; he is the agent for the proprietor.

C. B. MCGUIRE, Esq., sworn for plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Saloon-keeper.
Q. Where?
A. 103 Royal street.
Q. How long have you been there?
A. About a year and a half.
444 Q. How long?
A. About a year and a half sir.

Q. And during the year 1898 did you use the water of the N. O. Water Works Company?
A. I did sir.
Q. Did you have a meter?
A. No sir.
Q. How many openings did you have?
A. Three.
Q. How much did you pay a year?
A. I paid $25.00.

Cross-examination by Mr. BECKWITH:

Q. What were the openings?
A. One filter; one urinal, and a place for washing glasses.
Q. You keep a bar-room?
A. Yes sir.
Q. How many persons in your employ connected with the bar-room?
A. Three altogether.
Q. You occupy the entire building?
A. No sir, a small place about twenty by thirty.
Q. What is the balance of the building?
A. A shoe store, a cigar store and so on.
Q. And upstairs?
A. Upstairs, Walker & Zeller gents' tailors.
Q. Have you got any bath-rooms?
A. No sir.
Q. Are those other people in the house—do they have anything to do with the water?
A. No sir.
Q. They don't use it at all?
A. Not at all.

By Mr. FORMAN:

Q. Have you got any receipts with you?
A. No sir.
Q. Where are the receipts?
A. I have been there only a year and a half, and I suppose I could find it if I looked for it. I have but one. I have been there since the 1st of January——
Q. When did you have the water turned on?
A. I just continued the water that the other party had there. I superceded him.
Q. You didn't make any application for water yourself?
A. No sir.
Q. Who was the person who preceded you?
A. Mr. Casey.
Q. You just took up his——
A. Yes sir, just superceded him.

445 MARTIN CULL, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Grocery.
Q. Where?
A. Harmony & Magazine.
Q. How long have you been there?
A. About five or six years.
Q. Previous to the present year 1899, did you use the water of the N. O. Water Works Co.?
A. Yes sir.
Q. What facilities did you have?
A. I had one hydrant.
Q. How much did you pay a year?
A. At first twenty-five dollars, and then it was reduced to $20.00 afterwards.
Q. Why?
A. Well, I told them that I couldn't afford to pay $25.00.
Q. Was there any change in the facilities for using the water?
A. At that time, no sir.

Cross-examination by Mr. BECKWITH:

Q. Wasn't your rate reduced because you quit using the water for sprinkling?
A. I believe something was said about that sir.
Q. How many openings did you have in 1898?
A. One opening.
Q. How many employees?
A. I have six.
Q. And how many animals?
A. I have four animals.
Q. I am asking you about 1898?
A. Three.
Q. And how many wagons?
A. Three—that is part of the year, and part of the year I had only two.
Q. You occupy the entire building as a grocery store?
A. Grocery and residence.
Q. How many families there now, besides your own?
A. No sir only one.
Q. How many rooms are habitable?
A. Seven.

CHAS. BEUCLER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. A baker.
Q. Where?

A. At 1136 Carondelet street.

Q. Previous to the current year did you use the water of the water works company?

A. 1898?

446 Q. In the year 1898?

A. Yes sir.

Q. Only one year?

A. 1898 and 1899.

Q. What are your facilities for using your water?

A. I have only one opening.

Q. One opening; only one hydrant?

A. Yes sir.

Q. And your rate is $18.00 per year?

A. $18.00—the last receipt says $21.00. That is for 1899.

Q. That is for 1899—how many barrels of flour do you use?

A. One and a half a day.

Counsel for plaintiff offers in evidence the receipt produced by witness, in connection with his testimony.

Q. Your family lives there?

A. Yes sir.

Q. How many people does it consist of?

A. Three children, my wife and sister and myself, and one baker.

Cross-examination by Mr. BECKWITH:

Q. When did you start in the business there?

A. In October 1898—1136 Carondelet, 1st. of October I moved up there.

Q. Has your business increased any since?

A. It has been at about a standstill.

Q. What do you bake—what kind of bread?

A. Bread, no pastry. Bread and brioches.

Q. Do you always limit yourself to one barrel and a half?

A. Well sometimes I did go up a little but it dropped right away again.

Q. Is your family living in the same house?

A. Yes sir.

Q. Over the bakery?

A. It is all one floor.

Q. How many rooms?

A. About four rooms, counting the kitchen is five.

Q. How many in your family?

A. Three.

Q. How many do you employ in the bakery?

A. One baker.

Q. Besides yourself?

A. Yes sir.

The hour of adjournment having arrived this cause was continued until Wednesday November 15th. A. D. 1899 at 11 o'clock.

447 Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

Testimony and notes of evidence taken in open court, before the Hon. Geo. H. Theard, judge, on the 15th day of November, A. D. 1899, on behalf of plaintiff.

Appearances.

Messrs. M. J. Cunningham, and B. R. Forman for plaintiff.
Hon. J. R. Beckwith, Hon. E. B. Kruttschnitt of Messrs. Farrar, Jonas & Kruttschnitt and Hon. E. Howard McCaleb. for defendants.
B. K. Miller Esq. for Board of Liquidation, intervenor.

Dr. E. J. MILLER, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a practicing physician?
A. I am sir.
Q. What is the length of time that you have been practicing medicine
A. Six years, I believe, or a little over.
Q. Have you any official relation with the Orleans Medical Society?
A. Not at present sir. I was secretary for two years.
Q. You were secretary?
A. Yes sir.
Q. What can you say as to the wholesomeness of unfiltered Mississippi River water, as delivered through the hydrants of the water works company?
A. You mean for drinking purposes?
Q. Yes.
A. I would not use it sir.
Q. Why?
448 A. Well, it is muddy in the first place, and of course a water that is muddy and does not look wholesome must have some impurities in it. I have never made an examination of it at all.
Q. What would be the effect on the human system of a long-continued use of the water, with the quantity of mud that it has in it, in hot weather?
A. It would all depend upon the character of that mud Mr. Forman, as to the amount of sand in it, or the amount of unwholesome salts, or whether it is a hard or a soft water. A great many impurities may exist in water and then not make it an unwholesome drinking water That is, not have a bad effect upon the system.

Q. According to the testimony of Professor Ordway yesterday, from two litres, 7/91/100 dra-hms of clay and sand——

By Mr. BECKWITH: He didn't say what it was. He said he got that material from it.

By Mr. FORMAN:

Q. Would you judge that that quantity contained in two litres would be deleterious if constantly used?

A. Yes, I should think so.

Q. What would be the effect of the emptying of numerous sewers, and emptying of fœcal matter from the various institutions into the river on the wholesomeness of the water?

A. Well it would make it very unwholesome sir, because of the amount of nitrogenous matter in the water.

Q. Have you ever observed at times, when there was gulf water in the Mississippi river?

A. I can't say that I have sir. The matter was discussed at the parish society here; that was the first time my attention was called to it. I have only been in the city five years.

Q. Do you know how many sewers empty into the river?

A. No sir, I do not.

449 Counsel for defendant renew the objection they have heretofore made to this class of testimony.

By the COURT: The court adheres to its ruling and overrules the objection.

It is understood that all evidence of this character goes in under the objection already made, that is to say all evidences — to sewers delivering matter into the Mississippi river is taken subject to the exception and objection heretofore reserved, when evidence of that character was first offered, and it is further understood that the same ruling and same bill apply.

Q. Did the New Orleans Medical Society, or Orleans Parish Medical Society take any action with regard to this matter, and if so, when? Look at that copy of resolutions and state whether it is signed by you.

A. I think it was signed by me, per "secretary" sir. He had my authority for signing the name.

Counsel for defendant objects on the ground that the answer is not responsive to the question, and further objects to any testimony as to the action taken by the parish medical society as irrelevant and *res inter alios acta*, the company not being represented there, and having nothing to do with such action.

By the COURT: I think the evidence is admissible to prove *rem ipsam*.

Counsel for defendant excepts to the ruling of the court, and reserve- this note in lieu of a formal bill of exceptions.

A. Yes sir, they did take action in the matter.

Q. What is the paper you hold in your hand? Does it represent the action taken?

A. Yes sir.
450 Q. When was that?
A. June 25th.
Q. Of what year?
A. Of 1898, I believe it was, Mr. Forman.

Counsel for plaintiff offer, introduce and ask to be filed in evidence the resolutions referred to.

Objected to by defendant's counsel as irrelevant; that it is not under oath, and that it is hearsay in addition to the other objections urged.

By the COURT:

Q. Did you attend the session of the medical society at which this resolution was adopted?

A. I think I attended them all; it extended over two or three meetings, and I think that at this meeting I was present when this was adopted.

Q. You speak therefore from personal knowledge?

A. Yes sir.

By Mr. KRUTTSCHNITT: The objection which we now urge, is that the evidence is irrelevant, hearsay, and not under oath, and *res inter alios acta*.

By the COURT: I do not admit the document to prove any of the facts therein stated. I admit it only to prove *rem ipsam*.

Defendant's counsel urge that the evidence is totally immaterial, and this objection is joined in by counsel for the Board of Liquidation, intervenors.

By the COURT: I have announced my ruling.

To which ruling of the court, counsel for defendants, as well as counsel for intervenor, reserve a bill of exceptions, and take this note in lieu thereof.

451 Cross-examination by Mr. BECKWITH:

Q. Do you claim to be an analytical chemist yourself?

A. No sir.

Q. There were exhibited to you some sealed tubes said to be connected with the testimony of Professor Ordway. Will you examine those tubes and tell me what they contain chemically, or by chemical designation?

A. No sir, I cannot.

Q. Have you the faintest idea whether they are soluble or insoluble?

A. I cannot say.

Q. Can—or have you the faintest idea whether they have a base in aluminum, iron or silex?

A. No sir, it would require chemical examination for that.

Q. Do you know whether they are soluble in the gastric fluid?

A. I don't know.

Q. Do you know anything about it as to chemical organization atomic proportion and combination, or their solubility in water, or any of the acids?

A. No sir, not by looking at them.

Q. Why did you testify that in your opinion they were unhealthy?

A. Because a clean pure water is without any of these ingredients, that is, except in very small quantities. It is clear.

Q. Will you tell me whether in speaking of water, you mean water carrying matter ordinarily incorporated with it, alien matter, or carrying matter in solution?

A. Both sir.

Q. Do you know of anything, and can you state of anything in any one of those tubes that would be soluble in water?

A. That would be soluble in water?

Q. Yes.

A. Not as it is here.

452 Q. Of course in that sealed tube water could not get at it but I mean if treated with water?

A. No sir.

Q. Then you were rather liberal in your statement were you not, that the contents of these tubes contained anything that would breed disease?

A. No, I think not; I couldn't tell you positively though, but I think that if you will examine that residue you will find things there that are deleterious to the system. I take it for granted that it is, because the water is not used for drinking purposes throughout the city, without being filtered. That is evidently based on some examination at some time.

Q. Yes, but what do you know about it?

A. Only what I read sir, and what I heard in the Orleans Medical Society—in the discussions there, and an idea of what a good water should be.

Q. Your information then is what you get from that society—hearing it discussed?

A. No, and from my study of chemistry and my medical course sir.

Q. To what extent is water relatively a solvent, compared to other fluids, not acids?

A. Well it is owing to the water and the temperature of it, and the fluids with which it is mixed. It is owing to the salts in it. Certain waters are more soluble than others. The others containing more chlorides.

Q. Will you tell me whether there was a man in this whole collection of medical boards, that was an analytical chemist to your knowledge?

A. I don't remember sir. I don't know who the members are, who are chemists.

Q. Do you know now, or did you ever know the methods of water analysis?

453 A. Yes sir.

Q. You know the colographic method?

A. No, I do not.

Q. That is the one usually adopted?

A. It is now.

Q. Do you know how it is Doctor?

A. No sir.

Q. Do you know how reactions for am-onia or albuminoids are sought to be produced in it?

A. Yes sir.

Q. How?

A. Couldn't make it for you now.

Q. Then you do not just now remember?

A. No sir. Ammonia is the ingredient usually described as an impurity, that is the worst one.

Q. How would you detect it? Was there a man on that board that knew how to do it by the colographic method?

A. Well, we have several chemists, members of the society, but I do not remember whether they participated in that discussion or not.

Q. Was there any analysis of the water shown?

A. No, but several who had made examinations of it discussed the matter.

Q. Give us the names?

A. I think Mr. A. K. Finley was there and discussed the question for one.

Q. Did Mr. A. K. Finley report or submit to the board any analysis of this water, either analytical, synthetical or colographic?

A. No, he just discussed the analysis he had made. Mr. Keppler was also there, and discussed the matter. Mr. C. L. Keppler.

454 Q. Did they present to the board their table of analysis?

A. Not officially. It was simply in the discussion.

Q. What was the result of it; was it that it was in their opinion that the public ought to go to the expense of filtering the water, instead of the individual; was that it?

A. I think those resolutions state that sir; I am not positive.

Q. You tell us that as little as you know about the contents of those two tubes, that in your opinion they would be unhealthy. Therefore, I suppose that you must have in your mind some sort of disease that they would breed; what is it?

A. Well, there would likely be some decaying vegetable matter, some organic matter containing nitrates or nitrites, especially ammonia.

Q. Professor Ordway informed us, that he carried that material in those flasks to a red heat. About how much nitrogenous matter or organic matter would you expect to be left after that?

A. I think it was a heat that would not allow any to evaporate. How was it arranged?

Q. I don't know, Mr. Ordway's methods, but he said in response to a question of mine, that he carried that residuum to a red heat, which is a common ordinary course to pursue in water analysis?

A. Well, the same amount of debris before it was carried to a red heat would contain these properties.

Q. What's that?

A. This residue, if it is carried to a red heat would possibly contain the impurities. I am not speaking of this alone, but of the residue in the water itself.

Q. Suppose the water, not to be filtered—suppose it to be used as a beverage in its ordinary form, as it has been for hundreds of years what disease would you expect it to breed?

A. It would be very hard to say sir, what disease; but it
455 would lead up in the condition of the system—it might contain the germs of typhoid fever; if there was a great deal of ammonia it would certainly be bad, because ammonia is decomposing organic matter, either vegetable or animal matter; and if you find that there, you could reasonably expect to find a germ associated with it.

Q. Isn't ammonia an ammoniacal connection with albuminoids and water the result of decomposition of nitrogeneous matter, rather than the agent of its decomposition?

A. It is the result sir, but you can't say that all of it has decomposed. If you find ammonia there, you can say there was some decomposition.

Q. Yes, but as I understand you to say that ammonia present in water encourages any decomposition?

A. No, I didn't say that; it is the product of the decomposition.

HENRY CHARNOCK, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Where is your place of business?

A. 629 Gravier street.

Q. How long have you been there?

A. Thirty-four years.

Q. How long have you been using the water of the Mississippi river delivered through the hydrants?

A. All the time.

Q. Have you made any change in that time, in the facilities or openings?

A. There was a change made but it was fully twenty-five years ago. Twenty to twenty-five years.

Q. Since then there has been none?

A. None.

Q. What rates have you been paying?

A. Well, we have been paying including 1894, $15.00 a month, and from then on $18.00.

(Witness refers to memorandum.)

By Mr. KRUTTSCHNITT:

Q. A year you mean?

A. Yes sir, per year.

456 By Mr. FORMAN:

Q. What facilities have you there; what openings?
A. We have three.
Q. Three openings?
A. Yes sir.
Q. You have had three all along?
A. No, we originally had two, but that is twenty or twenty-five years ago.
Q. Haven't you your receipts for 1877 or 1878?
A. Those are all that I have been able to find.
Q. Can't you give us from secondary information, from your books, what you paid in 1877 and 1878?
A. I presume that I could. It would be a pretty difficult matter to find them.
Q. I would be very much obliged to you sir, if you will give us that information?
A. 1877 and 1878?
Q. Yes, from 1875, 1876, 1877, 1878, anywhere along there. I would prefer however, 1876, 1877?
A. Yes sir.

Counsel for plaintiff offer, introduce and ask to be filed in evidence the receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. You say you have three openings; what are they?
A. A pipe to which I attach a hose. There is a wash-basin and a urinal.
Q. And what is the third one?
A. Those are the three. I have named the three. A water pipe to which you can attach a hose for drawing water for washing the yard, and there is a wash-basin and a urinal.
Q. Which one was added last?
A. The wash-basin. Formerly we had one inside of the office which we used by carrying water into it, and it was so objectionable that we moved it, and had it put in the yard.
Q. What sort of a urinal is it. One of these perforated-pipe urinals?
A. Yes sir.
457 Q. Now can you tell us when you added that wash-basin. You say 20 or 25 years ago. Which do you mean?
A. Between twenty and twenty-five. I couldn't tell you sir.
Q. Do you think it is more than twenty?
A. Yes sir.
Q. What year was it?
A. I can't say.
Q. How many persons do you employ there on the premises?
A. Well, at present—at the present moment there are six. There has been as high as twenty.

Q. How long have you been carrying on business in your present firm style?
A. Since 1882.
Q. What is the style now?
A. Henry Charnock.
Q. What was it prior to that time?
A. Anderson and Simpson.
Q. Anderson & Simpson, liquidated?
A. Long ago sir; many years ago.
Q. What relation if any, do you hold to that firm?
A. I was the full partner in it sir.
Q. What?
A. Partner in the firm.
Q. How far back?
A. From 1874 to 1882.
Q. Since then you have managed the business yourself?
A. Yes sir, entirely.
Q. Well then, the books you will have to consult if you consult any at all, are not your own books, but the books of the preceding firm?
A. Yes sir.
Q. Are all those books and papers in existence?
A. The books are all in existence, yes sir.

By Mr. FORMAN:

Q. Do you use the water at your residence?
A. I do yes sir.
Q. What are your facilities there?
A. I have a hose for the yard. I have lived where I am nine years.
Q. Previous to 1899, what facilities did you have?
458 A. I have a hose in the yard and water-closet.
Q. What rates have you been paying there?
A. $18.00 a year.
Q. What is the size of your yard—of the lot upon which your house rests?
A. It has about eighty feet front.
Q. One hundred and twenty deep?
A. I presume so, about that. I never measured it.

By Mr. BECKWITH:

Q. Is it on a corner?
A. No sir, it is in the middle of the lot.

J. C. DESPAUX, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your place of business?
A. Orleans and Marais.
Q. What is your occupation?

A. Bar-room and wine store.
Q. Previous to the present year 1899, had you been using the water of the water works company?
A. Yes sir.
Q. For how long?
A. Since I am in business there.
Q. How long is that?
A. Twenty-two years.
Q. What facilities have you; how many openings?
A. Three.
Q. How much have you been paying a year?
A. Paying thirty-five dollars a month sir.
Q. Have you got your receipts with you?
A. I have one, the last year.
Q. Uniformly thirty-five dollars a year?
A. A couple of years past it was thirty dollars.
Q. Haven't you got any receipts previous to the year 1899; is that the only receipt you have got?
A. Yes sir.
Q. Where are the rest?
A. I never kept them.
Q. Lost them?
A. I never keep the old receipts.

459 Cross-examination by Mr. BECKWITH:

Q. What openings have you got?
A. Three.
Q. What are they?
A. Small ones. There is one very small one in the bar-room, and the other ones *is* ordinary.
Q. Simple hydrant in the bar-room?
A. Yes sir, a connection from the hydrant.
Q. Have you got a beer pump?
A. No sir, it is an air pump I have got.
Q. Hand pump?
A. Air pump.
Q. That is for pumping beer.
A. Yes sir.
Q. You use water don't you?
A. No sir.
Q. What is the other opening, wash-basins?
A. Another opening upstairs on the first floor.
Q. What is the third one?
A. A hydrant downstairs. Opening in the bar-room.
Q. Does your family live there?
A. Yes, my family.

M. P. BROWN Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You represent the American Express Company in New Orleans?
A. Yes sir.
Q. Has your company been using the water of the water works company previous to the present year?
A. Yes sir.
Q. What facilities or openings have you?
A. We have two, one for the water trough, and one for washing wagons.
Q. Have you a meter?
A. We have a meter, yes sir.
Q. You have a meter?
A. Yes sir, we have a meter.
Q. Have you got the receipts of the water works company?
A. No sir, I have not; those are all filed in New York.
460 Every month they are sent to the New York treasurer's office.
Q. How much per thousand gallons have you been paying?
A. We have been paying thirty cents.
Q. You have been paying thirty cents for years back?
A. Yes sir; I have been here for nearly three years, and I don't know of any change having been made since 1893 at my advent here. I could not say prior to my time.
Q. Thirty cents a thousand gallons?
A. Yes sir.
Q. Do you use the water at more than one place?
A. Yes sir, corner of St. Charles and Union, city office, we use the water there.
Q. You have a meter there?
A. Yes sir.
Q. How many openings have you?
A. Four.
Q. How much annually have you been paying?
A. $25.00.

No cross-examination.

W. B. LEONARD, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you keep a livery stable on Baronne street?
A. Yes sir.
Q. You have for many years kept a livery stable?
A. Yes sir.
Q. Do you use the water of the water works Co.?
A. Yes sir.
Q. Have you a meter?
A. Yes sir.

Q. How much a thousand gallons do you pay?
A. Twenty cents.

Cross-examination by Mr. BECKWITH:

Q. How many animals do you keep in your livery stable on an average?
A. Well, it varies; in the summer time we don't have as many; I suppose sometimes we have as high as two hundred there.
Q. You keep a sales stable?
A. Livery and sales, and boarding.
Q. You use the water for stock?
A. Yes sir, and for washing.
461 Q. You keep carriages?
A. Yes sir.
Q. Washing carriages?
A. Yes sir.
Q. Your consumption of water is quite large isn't it, when your stable is full?
A. Well yes, in the summer time we do a heap more washing than we do in winter.

By Mr. FORMAN:

Q. How low do you run down?
A. I have a few receipts here; I didn't find many home, because I have been taking that water for over thirty years. Here is one of $11.26, September; here is another one here for $14.00 for August.
Q. For what year?
A. For 1899.
Q. The judge has shut out all investigation about 1899?
A. I could get the others, but it might take a thirty-day job to find them. I have been paying this rate for twelve or fifteen years.
Q. You have been paying twenty cents a thousand for twelve or fifteen years?
A. Yes sir.

WILLIAM CLARKE, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are also in the livery-stable business?
A. Yes sir.
Q. Your place is on Baronnet street?
A. Yes sir.
Q. Do a good business?
A. We keep a good many stock.
Q. How does the size of your business compare with Mr. Leonard's? Stock on hand.
A. Why, something in the same neighborhood; about the same.
Q. Do you take the water of the water works company for several years past?

A. Yes sir, about seven years.
Q. Have you got a meter?
A. Yes sir.
Q. How much a thousand do you pay?
462 A. Well, they charged me twenty-five cents up to this year.
Q. Previous to this year you have been paying twenty-five cents?
A. Yes sir. One or two times they charged me thirty cents. I have the receipts here if you want to see them.
Q. Have you got the receipts for past years?
A. Yes sir. (Witness produces receipts) You will find one in there for forty cents.
Q. You have paid as high as forty cents?
A. Yes sir, one receipt there.
Q. I notice among the receipts that you produce for August 31st, 1897, forty cents a thousand was charged. Is that the rate you were paying at that time?
A. Yes sir, that one month, and we made a kick
Q. One of January 31st, 1898, for thirty cents per thousand?
A. Yes sir.
Q. There are several here for thirty cents a thousand; you paid those rates?
A. Yes sir.

Counsel for plaintiff offer, introduce and ask to be filed in evidence the receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Do you keep a sales stable?
A. Yes sir.
Q. What number of animals do you keep there?
A. Well, it varies, right along. We have sometimes as high as three hundred head.
Q. Wagons and carriages?
A. Yes sir.
Q. What is your average daily consumption of water. Do you know?
A. No sir, I do not.

SOL. HAAS Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. You keep a livery stable on Bourbon street, do you not?
A. No, I am keeping a sort of a boarding stable, no livery.
Q. Do you use the water of the water works company?
A. Yes sir.
463 Q. You have been using it for several years?
A. I have used it for six or seven years.
Q. You have a meter?
A. I have a meter now for the last few years.

Q. How much have you been paying since you had the meeting prior to 1899?
A. Forty cents; up to a few months ago—never less than forty cents.
Q. Are these your receipts for the water?
A. I suppose so, that's my name.

Counsel for plaintiff offers introduces, and ask- to be filed in evidence the receipts produced by the witness, showing that he has been paying forty cents a thousand gallons.

Cross-examination by Mr. BECKWITH:

Q. Do you keep a sales stable?
A. I keep a little sale—I don't handle much stock. I handle some few head.
Q. How many animals do you have in your place on an average?
A. Average about fifteen head.
Q. Do you hire or rent hacks or carriages?
A. No sir.
Q. Do you keep horses for hire?
A. No sir; I keep sometimes a few for sale, and the most of them I have got boarders or other people, which I feed and take care of.
Q. You are boarding animals?
A. Yes sir.
Q. What you have now is about your average?
A. Yes sir.
Q. Been the average how far back?
A. Well I guess for the last two or three years.
Q. Do you keep any carriages?
A. No sir.
Q. Got a yard hydrant?
A. I have got one hydrant and one faucet.

By Mr. FORMAN:

464 Q. I observe here a receipt, which I now offer in evidence, dated June 1st, 1891, for $50.00 for a year's supply?
A. I suppose it is my name; that must be me.
Q. Kuhne & Haas?
A. Yes sir, that was a partner of mine at the time.
Q. How did your consumption of water compare then, with what it was afterwards, when you were paying forty cents a thousand?
A. Pretty much the same. I averaged about the same; sometimes a few more, sometimes a few less.

The receipts produced by the witness, are offered in evidence by counsel for plaintiff.

J. D. SHERMAN, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?
A. Yes sir.
Q. How long are you connected with the fire department?
A. Six years straight along.
Q. Do you know anything of any fire at which you attended, at which there was a scarcity of water for extinguishing it at the start?
A. We had a fire on Louisiana avenue, between Chestnut and Coliseum, and we made a connection on a plug on Chestnut between Louisiana avenue and Delachaise, and the first go-off we had water enough to reach the roof, and after we had worked awhile we couldn't pump into the second story of the building; so we had to retreat from the fire to protect the building on the side, and on account of our stream not being able to reach the top of the house.
Q. Did the house burn down?
A. Yes sir.
Q. Do you recall a fire at the corner of Liberty & Berlin streets?
A. No sir, I wasn't there; I was absent that night.
Q. You were not there?
A. No sir.
465 Q. Do you recall any fire at which there was a deficiency of water?
A. No sir. The following night we made a test at the same place, and we found a much better stream than we did the night of the fire.
Q. When?
A. The following night.

Cross-examination by Mr. BECKWITH:

Q. Will you locate that building that you first testified about—the street, and between what streets?
A. On Louisiana avenue between Chestnut & Coliseum.
Q. When was it?
A. In 1896.
Q. How many engines were at that fire?
A. Well, there was three in our district in the start; I couldn't say how many came afterwards.
Q. How many were there taking water from the main?
A. Three sir.
Q. Only three streams put on the fire?
A. That's all I have known. I don't know about more up further, but there was three on our side. I don't know what was in the back.
Q. Can you tell me to what engine you were attached?
A. Engine No. 4 sir.
Q. Can you tell me to which hydrant you attached your suction?
A. On Chestnut street between Louisiana avenue and Delachaise.

Q. How many engines were attached to hydrants on Chestnut street?

A. Only one; only a single connection there sir.

Q. Where did the other engines get water?

A. One was stationed on Magazine & Louisiana avenue, and the other one was—I think the plug was near Coliseum on Louisiana avenue.

Q. Do you know whether the other engines—of your own knowledge, got water or not?

A. No sir, I couldn't say; I had no time to pay attention to any others.

Q. You were only watching your own engine?

A. Yes sir.

466 Q. Did you know the size of the main to which your engine was attached—was connected?

A. No sir.

Q. You don't know whether the other engines were taking water away from it or not?

A. Well, the appearance of it, it seems like the other engines were taking the water from it.

HENRY REILLY Esq., sworn for the plaintiff, deposes and says:

By Mr. FORMAN:

Q. You belong to the fire department?

A. Yes sir.

Q. Engine No. 15?

A. Yes sir.

Q. Do you recall any fires that you have attended at which there was a scarcity of water?

A. Yes sir.

Q. When and where?

A. Louisiana avenue & Magazine.

Q. What about it; tell about it?

A. The fire was on Louisiana avenue between Chestnut & Coliseum, and we attached to a plug there and couldn't get any water.

Q. After you attached the engine to the plug you couldn't get any water?

A. No sir, couldn't get any water.

Q. Do you know anything about one at Cadiz and Jena, or Magazine between Cadiz & Jena?

A. Magazine?

Q. Yes.

A. No; we had plenty of water there. There was another fire on St. Charles and Berlin, and we didn't get no water there. We had to take water out of the gutter.

Q. You attached the engine to the plug and you couldn't get any water?

A. Yes sir.

Q. Do you know of any others?

A. Napoleon avenue & St. Charles.
Q. When was that?
A. About a year and a half ago.
Q. Did you attach an engine to the plug there and couldn't get any water?

A. It worked for a while, and all at once it left, and she
467 couldn't get any more. We worked for about five or ten minutes and then couldn't get any more water.

Q. What happened then?
A. We had to take up and leave the plug.
Q. Was the house burning?
A. Yes sir.
Q. These houses all burned down?
A. All burned down.

Cross-examination by Mr. BECKWITH:

Q. As I couldn't hear you, I will have to ask you what is the first fire you named?
A. Louisiana avenue and Magazine.
Q. What date was that?
A. I believe about—I don't know exactly the date; it is about five years ago.
Q. What sort of a building was it that was on fire?
A. Two-story building.
Q. Where was it situated on Magazine?
A. No sir on Louisiana avenue between Coliseum and Chestnut.
Q. Was No. 15 the only engine there?
A. No sir, there were several more engines there.
Q. Where did you attach No. 15?
A. Louisiana avenue and Magazine.
Q. What plug?
A. On the downtown plug.
Q. Was any other attached on that street?
A. No sir, further back.
Q. How many engines went to that fire?
A. Three of our district is all that I know.
Q. Was there any other called out?
A. I think No. 23 was back further.
Q. Do you know where the main distributing main is there?
A. No sir I don't know anything about no main.
Q. Do you know how Coliseum street is fed?
A. No sir, I couldn't say.
Q. You got water until the other engines started, didn't you?

A. Yes sir. After that I couldn't get any more.
468 Q. Did they get water enough?
A. I couldn't say; I didn't go back there.
Q. The engines at the other localities, do you know anything about whether they got water enough?

A. No sir, I couldn't say.
Q. What was the size of the house, two story you say?
A. Yes sir.
Q. Pretty well a-fire when you got there, wasn't it?
A. It was not exactly pretty well a-fire; it was burning; that is all I know. I didn't go back to the fire after that.
Q. What was the next fire you named?
A. Berlin & St. Charles.
Q. What date was that?
A. I couldn't say the date.
Q. Was it six weeks ago?
A. No sir, I think it is about four years ago.
Q. Do you know whether it was before the main was laid up St. Charles street?
A. No, they had a main on St. Charles street.
Q. Do you remember whether the main was laid up to Carrollton on that street?
A. No sir, I don't recollect; I know the main was laid, but I don't know when it was laid.
Q. Was this fire before or afterwards?
A. This fire was while the main was laid there; I don't know how far it extended up.
Q. How many engines went to that fire?
A. Four—three of our district and No. 23 came up there.
Q. Do you know whether the others got water or not?
A. No sir, I couldn't say.
Q. Is that the fire where you say you had to take water out of the gutter?
A. Yes sir.
Q. Where did the water come from?
A. Underneath the car track.
469 Q. It came from the water works didn't it?
A. No sir.
Q. Where did it come from?
A. Stagnant water that came out of the gutter.
Q. How long was the hose?
A. About sixty feet across the street. It went under one of the bridges, under the car track.
Q. How long did it take your engine to pump that water out altogether?
A. About half an hour.
Q. Did it take your engine half an hour to pump that amount of water out?
A. There was plenty of water there; it was just after a rain.
Q. Where was the next fire?
A. Berlin & Carondelet.
Q. That is the one you have been testifying about?
A. No sir, there is two of them. There was one back further.
Q. What was the date of that?
A. It is about a year and a half ago; I don't know exactly the dates. I didn't keep no record.

Q. You are still with No. 15?
A. Yes sir, all the time.
Q. How many engines went to that fire?
A. There was four of them.
Q. What hydrant did you connect with?
A. Napoleon avenue & St. Charles.
Q. How many engines were connected on that main?
A. I think four. There was one on Berlin street; one on Berlin & Baronne, and one on Marengo & Baronne.
Q. Do you know whether they got water or not?
A. I couldn't say.
Q. Did these fires occur in the daytime or night?
A. Night-time.
Q. What time?
A. Different times; I didn't take the time.

MICHEL BIRI Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?
A. Yes sir.
470 Q. What company or engine?
A. Engine No. 9.
Q. Can you tell us of any fires at which you attended, at which there was a scarcity of water from the water works?
A. Well, yes, a few.
Q. Name a few of them, and tell about it?
A. The Olympic club is one.
Q. What happened there?
A. We were at a water hydrant there, and our water ran short on us.
Q. You attached the engine to the hydrant?
A. Yes sir, to the hydrant.
Q. And you could not get any water out of it?
A. Well, we got about twenty pounds.
Q. How much was it short?
A. Well, we had at the first start off seventy, and it dropped down to twenty; because there were other engines got on the same line above us and took our pressure from us.
Q. Could you get any water on the fire?
A. Well, twenty-pound pressure; we continued at that until the fire was put out; couldn't do any better.
Q. How does pressure work; what ought you to have had to get a good pressure?
A. If there wasn't any other engines on that line we ought to have had seventy pounds of water pressure.
Q. You mean one engine pumping out of the hydrant, pumped the thing dry?
A. No, pumping out the water on that line.
Q. Pumping from the water hydrant at that time would pump it dry?

A. No, there was two other engines right above us on that same square where there was three other hydrants, and the other two engines they took the water away from us.

Q. The three others would exhaust it; is that it?

471 A. Yes sir, they took the pressure away from us.

Q. Then I understand there was not enough water in the mains to supply the three engines?

A. Yes sir.

Q. Will you name another fire where there was a scarcity of water?

A. Well, there was another fire on Dumaine between Burgundy & Dauphine where we coupled in, and could not get enough water to feed the boiler.

Q. Can you name any others?

A. Yes sir. Another fire corner of Orleans & St. Ann. We were in the same predicament; we had a very fine stream; we landed in there first, and we had about eighty or ninety pounds water pressure.

By Mr. KRUTTSCHNITT:

Q. Orleans and St. Ann?

A. At least Royal & St. Ann. I made a mistake; and we were doing very well there until two other engines came in, No. 7 and No. 13, above us, and they took our pressure away, and ran it down to thirty pounds water pressure—from ninety to twenty; that left three engines on the side—three squares.

By Mr. FORMAN:

Q. Can you recall any other instances?

A. Well, there is so many of them sir—my memory ain't the best in the world to remember them sir, but of late in the district, we have had pretty fair water.

Q. What is your district?

A. That is from Canal street down to the barracks. Well, down to Elmira street is pretty far, and from the river to the woods.

Q. What has been since you have been in the fire department, your general experience of the supply to run more than two engines?

A. Sir?

Q. What has been your general experience as to the supply of water when you had two or three engines on a main?

A. Well, two or three engines you can't do very fair work with three engines on one line; that is, I mean inside of a square

472 and a half, where there is three engines, why you can't do very fair work.

Q. Did you ever pump out a fire-well?

A. Yes sir.

Q. When was that?

A. At the corner of St. Louis & Chartres. We had three engines at a fire over at Dumas' furniture store, I believe it was, about two

years ago; maybe more or less. We had a well there, and three engines ran it dry.

Q. Ran the fire-well dry?

A. Yes sir; ran her down. Of course we didn't run her down; we had to stop a couple of engines until it filled up again.

Q. You had to stop two in order to let it fill up?

A. Yes sir, and when it filled up the three engines started again, and it lasted about a few minutes, and it ran down again. That's about all I do remember sir.

Cross-examination by Mr. BECKWITH:

Q. Do you know anything about the distribution of water down by the Olympic club?

A. No sir. I don't know; only that I got down to a water-plug there sir, and got to work; that's about all I can tell you, and we were working there from the start until the taking up, when the fire was over.

Q. Do you know the size of the main that the hydrant was on?

A. No sir, I couldn't tell you.

Q. Do you know anything about wells and hydrants in the vicinity, that could have been taken up, so as not to put three engines on a small main?

A. No sir, I couldn't say.

Q. What position did you have in the company?

A. Engineer of the company.

Q. Isn't it a habit of those engines when they rush to a fire to try to get there first, and to get the first water on a fire?

473 A. Well, yes; of course that is the orders, to get to a fire as fast as you can, and get water on it.

Q. There is a rivalry among the engines about that, isn't there?

A. A river——

Q. There is a rivalry among the engines about that, isn't there. Each one tries to make a better record than the other?

A. Oh, not at all sir. There isn't anything in that; not now sir.

Q. Now about the burning of this furniture store on Chartres street; on what street did you go?

A. We connected right out of the well, in the middle of the square, and at the crossing of Chartres & St. Louis.

Q. Were there any engines on Bourbon street?

A. Oh, yes, there was engines all around; there was a general alarm.

Q. How many engines were pumping out of that *cistern* system?

A. Out of this well sir?

Q. No; out of that distribution down there—in that vicinity?

A. Well, there might be about ten engines or twelve engines.

Q. Do you know anything about whether the others got water or not to your own knowledge?

A. Oh yes they got some water, but I couldn't say which ones got water. I only know the position we were in at the fire-well.

Q. If you found the well was not delivering water enough for three engines, why did not one of the engines select another locality on another street where there was a main?

A. Well, there wasn't any place near at hand sir; I know that the chief went to the sugar refinery to try and get water from them to supply one of the engines that was in the neighborhood.

Q. How long have you been connected with the fire department?

A. Twenty-nine years sir.

Q. You were then in the volunteer department?

A. Yes sir.

474 Q. Are there as many hydrants and facilities for attaching to the mains around St. Louis street now as there were when you first became a fireman?

A. Well, there is more now; there are improved a good deal since my time. In fact, as I said before, the water facilities in our district now is pretty fair, down as far as the water works runs.

Q. Where is that Olympic Club. Between what streets?

A. Well, it is between Montegut, Clouet, Royal & Chartres.

Q. Pretty low down below the system, isn't it?

A. Well, no; there is water below that sir, down as far as Elmira street.

Q. Do you know what size mains?

A. No, sir, I do not.

Q. Do you know whether these mains were down there prior to 1878 or not?

A. Yes sir, I believe they were. I worked out at some hydrants below that fire.

H. F. GRANT, Esq., sworn for plaintiff deposes and says:—

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?

A. Yes sir.

Q. What engine?

A. I used to be connected with No. 4, for about two months I am down here now.

Q. While you were connected with No. 4, did you attend any fires at which there was any deficiency of water?

A. Yes sir.

Q. When and where?

A. Louisiana avenue between Chestnut & Coliseum streets.

Q. Tell about it?

A. We were attached onto the plug on Chestnut between Louisiana avenue and Delachaise, and that plug only gave eleven pounds of water pressure that night. It was not enough water pressure at which you could run the engine good.

475 Q. Can you name any other?

A. On the corner of Berlin & Liberty streets; we went back there, and took a plug off, and the water didn't run at all hardly.

Q. Can you name any other?

A. No other that I know of, but those two of any consequence. But I do know that we used to go around that week testing the water pressure on those plugs.

Q. What did you find?

A. Sometimes we would get eight to twelve pounds pressure on it. Sometimes as high as twenty-five.

Q. Did you make any report of your tests to the fire board?

A. Of the test?

Q. Yes.

A. It used to be put in the book all the time; all those tests—kept a record of it.

Q. Who is got those records?

A. I guess No. 4's house has them in a book. Most of the houses kept a record.

Cross-examination by Mr. BECKWITH:

Q. When you talk about taking pressure you mean in pounds don't you?

A. I say I used to be in the sixth district, but I am down here now.

Q. When you took the pressure, you took it in pounds on some gauge didn't you?

A. On the engine gauge.

Q. How did you take it; connect the hose and then allow the water to run into the engine, into the air chamber?

A. Connected onto the plug with the engine, perfectly tight, and the pressure ran the gauge up.

Q. And you took off the record in pounds, in the number of pounds showing on the gauge?

A. Showing on the gauge—whatever the plug pressure gave you.

Q. At the time you were at this Berlin Street fire, do you remember the plug you were attached to, where you were located?

A. Well, we were not attached to a plug, but we tried to get water from a blow-off, and from that blow-off it did not give enough water to give a small engine water.

476 Q. Well, the blow-off on the main was an attachment on it for the purpose of blowing out the main?

A. Yes sir.

Q. How did you attach it? It is right exactly at the end of the pipe ain't it?

A. It is connected to the main pipe, and then there is a pipe that runs into the gutter; you open a valve in the centre of the street, and the water runs into the gutter.

Q. What was the size of that blow-off valve?

A. Well, I understand it is a three-inch pipe back there.

Q. Can't you tell?

A. But I don't know the size of the valve, because it is down in the ground.

Q. What relation do you hold in the company. Are you the engineer?
A. Yes sir.
Q. How many engines were at the fire?
A. To my knowledge there was three.
Q. Will you give us the date of that Berlin Street fire?
A. The date of the Berlin Street fire—I don't know the date of that fire.
Q. Was it six weeks ago, or six months, or six years?
A. I couldn't say; it is in the neighborhood of two months and a half ago.

Counsel for the defendant moves to strike out all the testimony of this witness relative to the Berlin Street fire which occurred about two months and a half ago.
Counsel for the Board of Liquidation joins in the request so made.

A. I couldn't give no date for that Berlin Street fire.

By the COURT:

Q. Has it been within the past year; since the beginning of 1899?
A. Yes sir.

477 By Mr. MCLOUGHLIN:

Q. Where was that fire?
A. Corner Berlin & Liberty.
Q. You say that was in 1899?
A. Yes sir, in this year.

Counsel for defendant renew their motion to strike out the evi dence of this witness on this point.

By Mr. FORMAN:

Q. Was that the place where you used the blow-off?
A. That was the place I used the blow-off.

Capt. F. MICHEL, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?
A. Yes sir.
Q. For how long?
A. For about ten years.
Q. Can you tell us of any fires that you attended, that there was a deficiency of water previous to the 22nd of January 1899?
A. Yes sir. I attended a fire corner of Berlin & Carondelet.
Q. What was the matter with the water there?
A. They were connected with a plug corner of Napoleon avenue & St. Charles. We couldn't get a sufficient amount of water to supply an engine on. I also attended a fire on Louisiana avenue. We connected to the plug at the corner of Louisiana avenue and Maga-

zine. Couldn't get a sufficient amount of water to supply an engine at that fire.

Q. Do you remember of any others?

A. No sir, I can't recollect of any others.

Q. Houses burn down?

A. Yes sir, completely.

Cross-examination by Mr. BECKWITH:

Q. Can you give us the date of this fire?

A. Which fire?

Q. The one you have been talking about?

A. July 9th 1897; the fire on Louisiana avenue was November 8th 1894.

478 Q. What connection, if any, did you have with any steam fire-engine at that time?

A. Engine No. 15. Captain sir.

Q. You were captain?

A. Yes sir.

Q. Was there a general alarm sounded at that fire?

A. I think there was.

Q. How many engines were out?

A. Four.

Q. A general alarm calls for more, don't it?

A. Well, no sir, not in my district.

Q. Where did you hook on?

A. Louisiana avenue & Magazine.

Q. What to, a hydrant?

A. A fire-plug, yes sir.

Q. Is the plug on the avenue?

A. It is on Magazine street near the corner of Louisiana avenue.

Q. Where were the other engines hooked on?

A. One was connected with the plug on Louisiana avenue & Coliseum; another on Chestnut bet. Delachaise and Louisiana avenue, and I think the fourth was connected to the plug on Toledano & Coliseum.

Q. How long have you been a fireman?

A. Ten years about that.

Q. You came in since the volunteer system went out?

A. Yes sir.

Q. Do you know anything of the distribution up there—of the sizes of the mains, and where the arterial mains are located?

A. Well, I know there is mains running up Chestnut street; there is a new main running up there, but I don't know the size of it. There is a main running up St. Charles avenue; I think there is an eighth inch main, I am not certain, and there is a main running up Magazine street to Napoleon avenue. I don't know the size of that main.

Q. Were you taking off from that main, or taking off from a side connection?

A. Well, I think they were taken direct from the main on the Louisiana Avenue fire.

Q. What sort of pressure did you get?

A. I don't know exactly the amount of pressure, but I know you could not get a sufficient amount to supply the engine.

479 Q. The other engines took it away from you didn't they?

A. Yes sir, that is at the Berlin Street fire they did, but not at the Louisiana Avenue street fire, because none of the engines had a sufficient supply of water.

Q. Do you know what the pressure was there?

A. No sir.

Q. Can you tell us the date when it occurred?

A. Yes sir, July 9th 1897.

Q. Daytime or night?

A. Night-time, 12.54.

Q. Do you know whether the valves on the hydrants were opened wide or not?

A. Yes sir, the fire-plugs they were.

Q. How do you know?

A. Because I was there when they were opened.

Q. If there was sixty or seventy feet pressure at the works, it ought to have been there?

A. I don't know; I suppose it ought to have been there providing there was no leaks in the pipe.

Q. Do you firemen know that we have an automatic record of pressures for every hour of the day and night?

A. No sir, I don't know it.

Q. What time in the night was this?

A. What fire are you referring to sir?

Q. The fire on Louisiana avenue, the 9th of July?

A. It was 1.17 a. m.

Q. That was on the 9th of July?

A. No sir, that was on the 18th of November. On the 9th of July, it was 12.54.

Q. What year was that—that December fire—the last fire you speak of?

A. Well, the fire on the 18th of November 1894, that was the Louisiana Avenue fire. The Berlin & Carondelet Street fire, that was in 1897, July 9th.

480 MAYER ISRAEL, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a merchant at the corner of St. Charles & Common?

A. Yes sir.

Q. Previous to the 22nd of January 1899, have you used the water of the N. O. Water Works Company?

A. Yes sir.

Q. You have a meter?

A. Yes sir.

Q. How much per thousand do you pay?
A. Twelve cents.
Q. Have you got your receipts?
A. Yes sir. (Witness produces twelve receipts, which are offered, introduced and filed in evidence on behalf of plaintiff.)

Cross-examination by Mr. BECKWITH:

Q. Where did you say your place of business was?
A. Corner of St. Charles & Common.
Q. You have got a water elevator haven't you?
A. Yes sir.
Q. What size elevator?
A. Do you mean the capacity?
Q. Yes.
A. About two thousand pounds.
Q. How much?
A. Capacity of two thousand pounds more or less.
Q. This water is metered for your elevator isn't it?
A. Yes sir, only.
Q. What?
A. Only for the elevator.
Q. The consumption is very large isn't it?
A. Yes sir. We use about three hundred dollars of water a year.
Q. At that rate?
A. Yes sir.
Q. You use over ten thousand gallons a month, don't you?
A. 10,000 gallons a month, yes sir.
Q. You use that much a day don't you?
A. Well, it just depends.
Q. The rate was made with you for that elevator wasn't it?
A. We have a meter there sir.
Q. How long have you had that meter?
A. Well, since I have occupied the building.
Q. About how long is that?
481 A. About ten years. Prior to that time I understand it has been the same rate.
Q. How many stories have you to that store reached by the elevator?
A. Three stories.
Q. Wasn't there a counter on that elevator at one time?
A. A what sir?
Q. A counter; an indicator that went up and down in the elevator, showing the number of pounds?
A. No sir, it is all measured by cubic feet.
Q. Did you make this agreement with the water works company, or your predecessor?
A. Well I simply continued the contract of my predecessor.
Q. Who was your predecessor?
A. Mr. H. D. McCown.

Q. Do you know how long the elevator has been there?
A. Oh I dare say fifteen or eighteen years.
Q. Of course you don't know of your own knowledge when it was installed?
A. No sir, I do not.

J. N. W. OTTO Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a druggist I believe?
A. Yes sir.
Q. Where?
A. Corner of Magazine & Josephine streets.
Q. Previous to the 22nd of January 1899, did you use the water of the water works company?
A. Yes sir, since 1896.
Q. Have you a meter?
A. No sir.
Q. What facilities have you?
A. One faucet.
Q. How much have you been paying annually?
A. $15.00 a year.
Q. Got your receipts?
A. Yes sir.

(Witness produces receipts for 1896, 1897 & 1898, and they are offered, introduced and asked to be filed in evidence on behalf of plaintiff.)

482 Cross-examination by Mr. BECKWITH:

Q. You have a family there also in the same building, haven't you?
A. There is a family there, yes; but the family does not use that water; it is for the use of the store only.
Q. Is the hydrant in the yard?
A. Yes sir.

R. J. OSBORNE Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep a bathing establishment in New Orleans for a number of years?
A. Yes sir.
Q. Previous to the 22nd of January 1899, have you used the water of the New Orleans Water Works Company?
A. Yes sir.
Q. Did you have a meter?
A. Yes sir, two meters.
Q. How much per thousand did you pay?
A. Twenty cents a thousand during the last few years, and before

that twenty-five cents a thousand, and previous to that a yearly rate. The first year that I was in business I had a yearly rate.

Q. How much was that?

A. The first year was $35.00, and after that a meter was installed, when I paid at the rate of twenty-five cents per thousand gallons, I had no contract.

Q. No maximum or minimum limit?

A. I don't understand the question sir.

Q. Did they require you to make any guarantee that you would pay so much and take so much, or in other words that your aggregate bills should not be less than so much per month?

A. No, I don't remember any such engagement.

Q. Have you your receipts with you?

A. No sir, I have not. They have all been destroyed.

Q. They were all destroyed by fire?

A. Yes sir.

Q. Your place was burnt up?

A. Yes sir.

Q. Where do you reside?

A. I resi le up in Carrollton sir.

Q Water mains running up in that district?

483 A. Two squares from my house.

Q. Did you apply for water for your house?

A. Sir.

Q. Did you make any application for water for your house?

A. Yes sir I have done so.

Q. Did you get it?

A. No sir.

Q. What answer did you get. What did they charge you?

A. Didn't charge me, because I haven't had any.

Q. What did they ask you?

A. I was told that there was no water pipes on that street, and that I could not have water, unless there was a sufficient number of consumers to apply for it.

Q. Did you have any consumers?

A. No, I did not myself. There are between my house and the Carrollton avenue, and where the water-works main is, there are only four residences; three residences at present.

Q. Was any price named to you at which you could get it?

A. Yes; I was told that unless there were applicants for water sufficient to guarantee ten per cent. upon the outlay for the installation or laying of pipes in the street, that the company could not supply water.

Q. How much was that?

A. Mr. Gardner the superintendent estimated to me approximately, that it would be about $750.00; that $750.00 would be the cost to lay those pipes, and that $75.00 a year would be the minimum to be guaranteed for such a supply before I could have water to my house.

Q. How many feet was it?

A. Two squares sir.
Q. About six hundred feet?
A. He said about 600 feet, and estimated that it would be about $750.00.
Q. What size pipe was that to be?
A. I don't remember sir.
Q. How long was that guarantee to last?
A. Well I know that the first year had to be paid upon application, and I am not quite sure about the period to be guar-
484 anteed; it was a period of years; I am not quite clear about it though, but the time seemed prohibitive. The price stated was prohibitive, so that I did not consider the period to be guaranteed for the consumption of the water.

Cross-examination by Mr. BECKWITH:

Q. You kept the Russian bath establishment, didn't you?
A. I did, yes sir.
Q. How many hot baths?
A. Not at all sir. I had no bath-tubs. It was not an establishment for the supplying of plain baths—just a Turkish bath.
Q. You had no ordinary bath-tubs?
A. No ordinary bath-tubs. I had just one, more especially for our own private use, or any special use, but not for general plain baths sir; not at all. We never gave plain baths.
Q. Is it generally the case with Russian baths, that the proprietors do not use them for themselves, but use a common bath?
A. Well, that is a matter with each individual. I don't think you could lay down any rule in that matter.
Q. Well there was a very considerable call for water wasn't there?
A. Well, a Turkish bath doesn't mean a water bath; the water is only used for cooling purposes, or to wash away perspiration; a Turkish bath is a sweating bath; it is a hot-air bath.
Q. I understand, but it is not otherwise a dry bath?
A. That is the essential part of a Turkish bath, the hot air; the dry process; it is not essentially a water bath, but it is essentially a hot-air bath.
Q. You use steam don't you?
A. Very little; perhaps a gallon of water would make all the steam used in a day, or a few gallons anyhow.
Q. You use hot and cold water don't you?
485 A. We use some just in the form of a shower.
Q. No plunge?
A. Yes, a small plunge.
Q. What sort of a plunge bath do you have?
A. We had a plunge bath that was fourteen feet long, nine feet wide, and three and a half feet deep.
Q. How many customers do you plunge in that without changing the water?
A. Well the bath was washed out every day, and a supply used during the day for keeping the water freshly supplied.

Q. Then all the customers for one day plunged in that one bath? In that same water?

A. Those who wanted to; very few did do so. It was part of the treatment that very few used.

SCOTT MCGEHEE Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are the secretary of the Southern Insurance Company?

A. Yes sir.

Q. Does your company use the water of the water works company?

A. Yes sir.

Q. What facilities have you there?

A. I think we have two urinals, two basins, and two water-closets.

Q. What were your rates for 1898 and previous years?

A. Well, we changed our building, and pulled it down in 1896. I can give the rates from 1896 to date; they were thirty dollars a year.

Q. 1896, 1897 & 1898, were at thirty dollars a year?

A. Yes sir. And 1899 the service was two urinals, two water-closets and two wash-basins; it says hydrant, but that is what we use in the office. Prior to the occupancy of the new building, in the old building we paid $20.00 a year; we had a smaller
486 service, which was a urinal and two basins; our rate was advanced in the new building for the additional service in 1896.

Q. Do you recall ever having attended a fire at which there was a scarcity of water?

A. Yes, I do too.

Q. Will you please name them, and state what you have observed in that regard?

A. One of them, was, I think, August 1896, when the J. C. Morris Co. burned up; there was a deficiency of water there. There was not a sufficient supply. I think that was—there was sufficient there at the first part of the fire when they got to work; the second occasion was, when the cork works burnt up.

Q. The what?

A. That was in December 1897; that I remember very distinctly, because I was somewhat surprised at something that occurred.

Q. What occurred in that regard?

A. The fire was pretty well under control, and we thought would be soon extinguished, when the water seemed to stop all of a sudden; it stopped, because it just tumbled out of the end of the pipes, out of the stand-pipe, and out of the pipes of the engine; I don't know what occasioned it.

Q. The water gave out?

A. Yes sir; it was some minutes before the flow was resumed.

Q. Then the fire got ahead again?

A. It got a pretty good start again, until the engines took hold again.

Cross-examination by Mr. BECKWITH:

Q. Tell us the exact date of the Morris fire; have you got it?

A. No, I have not Mr. Beckwith; I think though that it was in August 1896 if I am not mistaken; I did not look it up in my book. I had no interest in it really.

487 Q. Where was the cork fire?

A. That was on the corner of what we would designate as the lower swamp corner of Natchez alley and Tchoupitoulas street.

Q. How many engines were there?

A. That I don't know sir.

Q. How far is it from Fulto- street—from the corner of Fulton & Poydras?

A. Well I can state it was about—maybe it would be about Tchoupitoulas street or S. Peters, four blocks I imagine.

Q. How far from the corner of Gravier and Fulton?

A. That is about four blocks, isn't it?

Q. It was substantially only one block away from Poydras street wasn't it?

A. This fire.

Q. Yes sir.

A. Yes.

Q. Do you know anything about the fire-wells there?

A. I do not sir.

Q. Do you know where the engines were taking water from?

A. That I don't know sir.

Q. How many were there there?

A. I don't know sir.

Q. You did not know that there were two fire-wells, with very large openings, one at the corner of Fulton & Gravier, and the other at the corner, or junction of Poydras & Fulton?

A. No, I was not aware of it sir. I might have known it accidentally.

Q. Do you know whether those wells were put in use or not?

A. That I can't say sir.

Q. Have you any idea yourself how many gallons of water the average steam fire-engine throws in a minute?

A. No sir, I do not.

Q. Were you in a position to see whether all of the engines there were throwing water lightly?

A. Along the front, yes; that was on the corner of Natchez alley and Tchoupitoulas, and of course you could only see those engines with streams that were falling on the building from the front

488 on Tchoupitoulas street.

Q. Did you make any inquiries whether the boilers or the engines were foaming, and whether they could keep up steam or not?

A. No sir, I did not.

Q. Well, the steam would be of course the motive power by which they were enabled to throw a current; why do you say the water came out when it may have been the steam?

A. Because the water ceased to flow sir through the engine pipes.
Q. Sir?
A. I say because the water stopped—the force was lost.
Q. Well, the thing would occur if there were millions and millions of gallons excessive water, if there was a deficiency of steam wouldn't it?
A. I presume so sir; that belongs I presume, to the engineer of the company.
Q. About how many engines were out there?
A. I expect there had been a general sounded. I don't know, but there must have been three or four pipes visible from that corner.
Q. Do you remember whether they were hooked on to the hydrant on Tchoupitoulas street?
A. Where they were hooked, I don't know.
Q. Was there water running down through Gravier street in the gutters.
A. I think there was water running down through Gravier street; because I came out that way from the fire.
Q. Did you go from the fire-well at Fulton street—did you go up to Poydras?
A. No sir, I went just simply around the block.
Q. Wasn't the water on Poydras street nearly up to the crown of the road?
A. I don't remember sir; there was water running pretty freely in the gutter.
Q. Were any engines taking water out of the gutter?
A. I couldn't say definitely.

489 L. FABACHER Esq., sworn for plaintiff, deposes and say:

Direct examination by Mr. FORMAN:

Q. I believe you keep a restaurant?
A. Yes sir.
Q. Previous to the 22nd of January 1899, have you been using the water of the water works company?
A. Not in the restaurant.
Q. Have you been using it anywhere else?
A. I believe we were using it previous to 1894.
Q. Where?
A. In the restaurant.
Q. Previous to 1894 you used in the restaurant?
A. Yes sir.
Q. For how many years?
A. Well, I guess ever since we are established there; since my father began.
Q. When was that?
A. I think we established in 1881.
Q. Did you have a meter?
A. At times we had meters; later on, I can't recollect what years.

Q. Can you tell us whether you had the meter at a rate per thousand?

A. We had the meter as far as I can get bills—I asked my bookkeeper what bills he gives me here. (Witness produces bills) We had a meter, I think—this is for the oyster counter. We had a meter also for this, but I can't find the bills.

Q. Have you any other bills there?

A. Yes sir, that is my residence.

Q. Any other bills for the restaurant—these two bills, one dated April 1896, and the other May 1896, show that you were paying thirty cents per thousand?

A. Yes sir.

Q. Were you paying the same rate all the time?

Coursel for plaintiff offers, produces and asks to be filed in evidence the bills produced by the witness.

A. I presume so; of course the bills speak for themselves.

Q. You don't recall any change in the rate?

A. Not as I know; no sir.

490 Q. Now in October 1898 you had a hotel and furnished rooms?

A. Yes sir. That is across the street; that is the hotel.

Q. Another establishment?

A. Yes sir.

Q. You didn't have a meter there?

A. No sir.

Q. Do these bills state correctly the amount of facilities you had—two baths and four water-closets?

A. Yes sir.

Bills referred to by the witness are now offered in evidence by counsel for plaintiff.

Q. You also had water at your house, 1422 Constantinople?

A. Yes sir.

Q. Two water-closets, a range, two sinks, one water-closet, and one wash-basin. Is that correct?

A. Yes sir; there should be a fish pond on there. I don't suppose it is there now. We cut the fish pond off later.

Plaintiff's counsel offers, introduces and asks to be filed in evidence receipt for the house, dated May 1st 1897 also $75.00. Also offers all the receipts produced by the witness.

Q. After you quit using the water of the water works, how did you do?

A. We drove a well. We had to supply ourselves; we put in machinery; we put in boilers, dynamo and ice machines, and we found it would be cheaper for us to drive a well, and we did so.

Q. Has there been any change in your rates?

A. At the restaurant?

Q. Yes.

A. Not since we drove the well. We done away with that altogether, except for the oyster counter; that you have the bills there for; and later on we couldn't agree, and the water works took out their supply.

Q. What occurred; you say you couldn't agree?

A. Well, the prices were too high.

Q. What prices did they demand?

A. Whatever is charged there, an- found that we did not
491 want to continue it, and we brought the water from the bench or something of that kind; I presume we did. It is some time ago now, and I couldn't recollect the trouble between us.

Q. In other words you did not want to pay thirty cents a thousand; is that it?

A. Not for all the water we wanted to use, no.

Q. Did you ask for more water and want a less rate for it?

A. I don't know if we did or not. We didn't consult the water works; we found it was cheaper for us to drive a well, and we did so.

Cross-examination by Mr. BECKWITH:

Q. Your hotel on Custom-house street has how many rooms?

A. I think we have about eighteen.

Q. Were not they usually occupied and full?

A. In the winter season, yes.

Q. You said something about a fish pond at your house; when was that cut off?

A. I presume the year after that bill expired.

Q. When?

A. I presume the year after that bill expired, because I did not want to pay $75.00, and it would save $25.00 by cutting it off, and I cut it off. I didn't want to have to pay $25.00 a year to keep fish.

Q. You had a fountain connected with the fish pond?

A. Yes sir, I had a fountain.

Q. It was a fountain and fish pond?

A. Yes sir.

Q. How many rooms in your house?

A. Sleeping-rooms?

A. Habitable rooms?

A. There is four sleeping-rooms at my residence.

Q. How many others?

A. Well, we have a parlor, sitting-room, dining-room, big large gallery, that we call the children's, where they spend the day in the winter time comfortably, and several pantries, and such as that. I don't recollect.

Q. Did you name them all; servant's room and all?

492 A. Yes sir, five rooms including the servant's, besides the help in the stable; we have two or three rooms in the stable for the hired male help.

Q. How many animals do you keep?

A. Five or six; seven probably. Sometimes five or six or seven. At times we have more than others when we are making changes.
Q. You keep carriages also don't you?
A. Yes sir.

Capt. DANE, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a fireman?
A. Yes sir.
Q. How long have you been connected with the fire department?
A. Since 1890 in the paid department, and three years in the volunteer previous to that.
Q. How long in the volunteer?
A. Three years.
Q. What is your position?
A. At present engineer, previously, stoker. Engineer three years and a half.
Q. What engine or company?
A. At present with No. 11.
Q. Previous to the 22nd of January 1899, can you recall any fires that you attended at which there was a scarcity of water?
A. Yes sir.
Q. Please name them, and state what occurred in each case.
A. On February 26th, 1896 there was a fire at 1816 Constantinople street. At a block, Baronne & Dryades—and we did not get a sufficient amount of water for the engine; we had to stop the engine, and then I disconnected the engine from the plug, and opened the plug, and there was not a drop of water in it.
Q. Another?
A. (Witness reads from memorandum.) On February 7th, 1895, fire on Prytania & Perrier; on Constantinople between Pry-
493 tania and Perrier; we had a plug at General Taylor and Prytania; we had to leave the plug because it did not give the engine enough water, and take her out of a ditch which was flowing from the Independent Oil Co., at the head of General Taylor street.
Q. Do you know of any others?
A. On Tuesday March 31st, 1896, went out with the engine to test plugs. Tested a fire-plug on Marengo & Dryades, and did not receive a supply of water for the engine. On November 18th, 1894, a fire on Louisiana avenue and Coliseum, we had a plug at Coliseum & Louisiana avenue, and the water was so bad it caused the engine to foam.
Q. What effect has that on the engine?
A. Well, when the engine foams you couldn't get a sufficient amount of steam to operate the engine properly, caused the water to carry over from the cylinder, and naturally stopped the engine.
Q. Are there any others that you recall?
A. No sir; I have one here, but that is in 1899, that is not admissible.

Cross-examination by Mr. BECKWITH:

Q. Isn't it quite common when you are driving your boilers hard, that they foam and drive the water over into the cylinders?

A. Only when we have bad water.

Q. Are there not other causes of foaming than bad water?

A. Well, an engine as far as my experience has taught me will never foam with good water; there must be something the matter with the water unless the boiler is too small for the engine. The cylinders will pump the water right over into them if there is not a sufficient supply; as a rule fire-engines or boilers are always large enough for the cylinders.

Q. What engine are you attached to?

A. Engine No. 11.

494 Q. Had the boiler been recently repaired?

A. Yes sir we have a new boiler on there.

Q. It was the new boiler that foamed?

A. No sir it was the old boiler that foamed.

Q. Are you certain of that?

A. Yes sir.

Q. Hadn't there been a new device put on to the boiler before that fire?

A. Before that fire?

Q. Yes.

A. No sir, not that I knew of.

Q. Do you know that there had not been?

A. Not to my recollection. I had been there for three or four years previous, and there had not been any repairs made to the boiler.

Q. Do you know of anything in water that will make a boiler foam, except it be grease or fatty matter?

A. Well, I know the different substances or sediments would make a boiler foam.

Q. What sediments will make a boiler foam?

A. I don't know that I could mention many particular ones. I do know that lime is very injurious to a boiler.

Q. Yes, but if it foamed there—your boiler feed foamed because of the water, it ought to foam at every other fire because it is the same kind of water?

A. At that certain fire I attributed it to salt in the water. At that stage of the year the river gets very low, and I attributed it to the water coming up from the Gulf.

Q. How about steamships that plow the ocean in every direction of latitude and longitude and have nothing else but salt water to use?

A. They have a condenser.

Q. Yes, but they start on salt water don't they?

A. I don't think they do; I don't think it would be advisable to start with salt water when there is any way of getting fresh water.

495 Q. Grease in a boiler, when it is left there, after repairs will usually make foam, won't it?

A. Yes sir.

Q. When did you ever hear that salt water had a tendency to foam. Who told you so?

A. Well, I have read it in different mechanical books, I think, that salt water had a tendency to make it foam.

Q. Can you remember one of the books; I would like to read it.

A. Well no sir, I don't believe I could; I have read several, but I don't know the particular name of the book, nor what book it was.

Q. How long ago is it since you read it?

A. I don't know; I have been reading mechanical books for years.

Q. Try and think of it; I want to find the book; it is new to me. I thought I knew something about steam; I would like to find the book if you can remember it. If it is one of the periodical publications, you might guess what it is?

A. I don't remember; I can't tell you what book it is Mr. Beckwith; in fact I never made a note of it.

Q. Your mechanical experience in steam engineering consists in having been a stoker for a while and an engineer?

A. Yes sir.

Q. What does the whole period cover?

A. Ever since the present paid department; that is, ever since the whole city is a pay department, I have been—at least when it first started I was a stoker; previous to that we had a department in the sixth district; I was under Captain James O'Niel, and I was working there as a piper; we didn't have any stokers at that time.

Q. Stoking consists in shovelling coal into the furnace?

A. Yes sir, and assisting the engineer. Shovelling coal, assisting the engineer, taking his position when he is off.

496 Q. Do you know whether there is any main on Constantinople street up there, or ever has been?

A. On Constantinople? No sir, there is none.

Q. Where is that plug you couldn't find any water?

A. On General Taylor & Prytania.—Which fire are you speaking of? Two fires were on Constantinople; one was between Prytania and Perrier, and that plug we had was on the corner of General Taylor and Prytania.

Q. How many engines were out for that fire?

A. Well I should judge there were five; three of our own and two from downtown. But one, No. 22 came after we had left the plug, and had to pump water out of the same ditch that we did.

Q. Where did the water come from that was in the ditch?

A. From the Independent Oil Company at the head of General Taylor and the river.

Q. Do you know what the size of the main was there, and how many were pumping out of it?

A. No sir, that main was an extension from St. Charles avenue into Prytania.

Q. Four inches wasn't it?
A. Probably; I couldn't say for certain how large.
Q. How many engines hooked on to that?
A. There wasn't any on that one but the engine that I was with.
Q. Was there any between there——
A. There was one engine on St. Charles avenue, and the rest of the engines I think were on Marengo street—an extension that runs from St. Charles avenue, down Marengo as far as Coliseum or Chestnut.
Q. Is Marengo uptown or downtown?
A. Above.
Q. Did they get any water?
A. Yes I think they did. In fact I never had time to go
497 around and inspect the other engines to see what they were doing; I was attending to my own.

L. N. BRUNSWIG Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are a wholesale druggist?
A. Yes sir.
Q. Corner Gravier & Tchoupitoulas?
A. Yes sir.
Q. And you have been in that business a number of years in New Orleans?
A. Yes sir.
Q. Previous to the 22nd of January 1899, did you use the water of the New Orleans Water Works Co.?
A. Yes sir.
Q. You had a meter?
A. Yes sir.
Q. Previous to the date mentioned, what rate per thousand had you been paying?
A. I referred to the receipts here and they vary according to the quantity consumed, from thirty to twenty cents per thousand.
Q. It was for 1899; the judge has excluded that; I therefore hand these back to you.

Counsel for plaintiff offers, introduces and asks to be filed in evidence the receipts of the witness previous to January 1899.

No cross-examination.

MOSES SCHWARTZ Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What relation do you bear to the Schwartz Foundry Company?
A. I am the president of the Schwartz foundry.
Q. Previous to the 22nd of January 1899, has your company used the water of the water works company?
A. Yes sir.

Q. Have you a meter?
A. Yes sir.
498 Q. How much a thousand do you pay?
A. We have been paying twenty-five cents.
Q. Uniformly twenty-five cents a thousand?
A. Well, some bills are rated higher after 1898.
Q. You mean twenty-five cents a thousand gallons?
A. Yes sir.
Q. Have you got any of your bills?
A. I have.

(Witness produces bills, which are offered, introduced and filed in evidence on behalf of plaintiff.)

Cross-examination by Mr. BECKWITH:

Q. You use the water for steam there don't you?
A. Yes sir.
Q. What horse-power engines have you got?
A. We are running about eighty-horse-power boiler. We have more than that, but never use more at one time.
Q. Well your consumption of water is approximately three thousand gallons a day isn't it?
A. I don't know exactly what we are using, as we are using other waters besides river water.
Q. What?
A. We are using well water as well as river water. At times we use well water, and at other times river water.
Q. You rate—you run just from one rate to the other according to the amount you consume in a month?
A. I think we are using more water than the bills call for, because we have our own water; we are using a great deal of water ourselves.
Q. I suppose the cause of the variation in the amount consumed, as shown by the meter bills, was because sometimes you used more well water than you did at other times?
A. Yes sir.

499 Capt. CASHEN, recalled on behalf of plaintiff.

Direct examination by Mr. FORMAN:

Q. You were requested to make a memorandum of the fires that you had been at previous to January 1899, in which you found a deficiency in the water supply; have you any memorandum?
A. I have a few sir.
Q. Please give them in detail what you observed in each case?
A. The first one I mention was a church fire which burnt the church on Esplanade avenue; that was December 1st, about ten minutes after six, 1876.
Q. We will let that go; that is ahead of us.

A. The next one was March 24th, 1887; station 24, corner of First & Annunciation, burned twelve buildings there.

Q. What was the matter with the water supply?

A. Didn't have water enough from what I seen. It was from fully ten to fifteen minutes before they got a supply of water on the fire.

Q. You mean after they got steam up?

A. Yes sir, and then it didn't reach; the first stream that I seen, into the second-story window.

Q. What was the reason of that?

A. I should judge from the scarcity of water sir.

Q. Go on in each instance, and then state what the matter was?

A. Then there was another one, April 3rd, 1892, at the time of that big fire on Magazine street. It started at 198 Laurel street and burnt ninety-four buildings. That fire, I had one of the streams; the stream I had there would barely go into the second-story window on Magazine street for about five or six minutes; then I got a good body of water. I helped the men to fight the fire on Magazine street myself, in person. Then there was another fire, January 22nd, 1890, the Chess, Checkers & Whist Club on Canal & Carondelet.

500 Q. What was the matter with the water supply there?

A. Fully five or eight minutes before they got water on the building.

Q. What was the reason?

A. From what I seen, it looked to me that they didn't get enough supply of water; the steam was up, but they could hardly force water enough.

Q. The steam was there in the engine?

A. Yes sir; then I was at that fire February 17th. 1892, at the time it burned, Schwartz, 1017, automatic alarm, general and repeated general.

Q. What was the matter with the water supply?

A. I have seen steamers there unable to have enough water to force into the second and third story windows.

Q. Have you got any more?

A. I have a couple sir.

Q. Give them to us?

A. Then sir, I was at a fire at the Olympic Club, 1897, December 7th.

Q. What was the matter with the water supply there?

A. They were a long time getting water.

Q. How long about?

A. I should judge they were about ten to fifteen minutes; steamers that I seen there could hardly have water enough to force.

Q. You mean after the engine was ready to pump?

A. After I arrived there.

Q. Go on.

A. December 8th. 1897, the Southern cork works, corner Natchez alley and Tchoupitoulas. A steamer came in while we were coming

and had a stream of water—had a stream of water with the intention of going upstairs, and they didn't have force enough to throw it up on the second floor into the hatch.

Q. Is that all the cases now you have got a memorandum of?

501 A. That's all I took. That is all I did take.

Q. Can you recall any others that you did not take?

A. Well, come down to time and day I will have to go back over the records again.

Q. Do you recall any without being able to name the date; any others?

A. There was another fire, No. 8 & 10 Chartres street; the well at the corner of Chartres & Canal had no water.

Q. Had no water?

A. No sir.

Q. Any others?

A. That's about all now.

Q. About all you can remember?

A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. Will you just tell us when the Chess and Checkers Club was at the corner of Canal & Carondelet street?

A. I don't quite understand. When they established there?

Q. Yes.

A. I don't remember when they established there.

Q. Was it ever there?

A. Yes sir; at least, I beg pardon. I can correct it. Baronne & Canal.

Q. What do you mean, that the fire was at the corner of Baronne & Canal or at the corner of Carondelet & Canal?

A. I made a mistake in the names of the streets.

Q. How long have you been connected with the fire department, and in what capacity?

A. I have not been connected with the fire department sir. I am connected with the fire patrol since boyhood.

Q. You say there was no water at the corner of Chartres & Canal?

A. In that well, at that fire, at 8 & 10 Chartres street, not when they opened the cover—the well was dry; I happened to be there at that time.

Q. It is always dry when the valve ain't open in it?

502 A. I never made a personal examination at both fires.

Q. Have you ever seen that valve turned before the connection was taken off, and the cover lifted by the upflow of the water?

A. I have seen covers—I have seen them turn on the well.

Q. You came here to tell us that when they took the cover off of the well there was no water in it?

A. Found to be no water in it.

Q. Was there any one there that knew that there was a valve

there for the purpose of keeping the water out of the well, when it was not in use?

A. There was engines there waiting to put their suction into the well.

Q. They never got any water there at all?

A. Not there at that time.

Q. Never got a drop out of that well?

A. Not while I was standing there sir.

Q. How long were you standing there?

A. I was there about five or eight minutes.

Q. Simply because somebody didn't have sense enough to open the valve at that time——

A. I didn't notice.

Q. Did you go back afterwards?

A. I paid no further attention to it. I had to attend to covering up the building on the inside.

Q. You come here and state that there was no water to be had at that fire because when the well cover was taken out there was no water in that well; do you mean to say there was no water thrown on that fire at that time?

A. At that time there was no water in that well.

Q. Be candid in your answer; was that fire allowed to burn without any water being thrown on it?

503 A. They got some water from some plugs around in the neighborhood.

Q. What were you doing?

A. I was working with my men covering up the stock.

Q. In the building?

A. In and out of the building.

Q. You were paying no attention whatever to the engines, were you? Your duty lay in another line?

A. What streams I seen — on the outside when I was coming over from the wagon, and I seen this well open, and I stopped, and seen what they were doing.

Q. Do you wish us to understand your testimony to mean that that fire from beginning to finish had not a drop of water thrown on it?

A. There was water thrown on it, but I know this well not to have any water.

Q. Why do you say that there was no water there?

A. Not in this particular well that I refer to.

Q. Do you mean to single out that well as illustrating that there was no water in the vicinity?

A. No sir, I can only specify that one well.

Q. Do you know what the distribution of water is on Canal street there?

A. I do not sir.

Q. Do you know where the fire-wells are?

A. Not at all sir; only that one in particular that I noticed. I never make a study of a well; that is not part of my business.

Q. Why do you come here and state that because an engine does not apparently have power enough to throw water up to the second story, that it is the fault of the water, and not the fault of the steam?
A. I will state what I see sir, and no more.
Q. You state now that it was because there was a want of water at other fires, and I now ask you if you will positively state
504 that it was not for want of steam?
A. I am not any engineer sir; I was not around the steam to see whether there was steam or not.
Q. Presumptively, if an engine was throwing any water at all, wouldn't it be true, that if she did not throw it high it was because she did not have power enough to do it?
A. I couldn't state that sir.

By Mr. FORMAN:

Q. I understand now the foreman there tried to get water out of the well?
A. Yes sir, and that is what attracted my attention to it.
Q. That was because they were trying to get water out of the well?
A. Yes sir.
Q. Putting their suction pipes down there?
A. Yes sir.

Capt. JAMES O'NEIL, sworn for plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. How long have you been engaged in extinguishing or helping to extinguish fires in New Orleans?
A. Since 1867, under the volunteer fire department.
Q. What is your position now?
A. Assistant chief of the New Orleans fire department, in command of the sixth district.
Q. In command of the sixth municipal district?
A. Yes sir.
Q. Since 1878 or 1879, can you tell us any occasions on which you had attended fires in which there was a deficiency in the supply of water?
A. I have been in charge of that district since December 15th 1889; I can only recall two instances where the water supply
505 was *was* so that we had more damage to property than we ought to have had.
Q. What were those two occasions?
A. June 12th, 1892, 7.40 p. m. fire corner of Berlin & St. Charles St.
Q. What was the matter there?
A. We had three engines on the line there, and they were working, getting a fair supply of water, and 23 came up from the city and got on Marengo and Berlin streets, and the water was off; we had no more water; we lost a two-story building at that fire on account of the shut-off of the water. There was damage to the build-

ing; we did not lose it entirely. They were all on the one main, all the engines. We were compelled to take one of the engines and let it take water from the gutters; surplus water that was in the gutters that flowed from the fire I suppose.

Q. Well, any other occasion?

A. Yes, there was a fire on November 19th, 1.17 a. m. 1894, on Louisiana avenue, between Chestnut & Coliseum; Mr. Baldwin's house.

Q. What was the matter there?

A. The supply of water there was very poor; we hadn't sufficient water to throw into the building from the street.

Q. On either of these occasions was there anything the matter with the engines?

A. No sir; all in good service; serviceable engines; we had four engines at that fire.

Q. Have you ever had any tests made of the pressure?

—. When we would exercise the engines, I would take the engines to test the hydrants in different parts of the district occasionally.

Q. Have you any record of those tests?

A. Yes sir.

Q. Have you it with you?

A. Yes sir.

Q. What is it; give the date?

506 A. Yes sir. Engine No. 4, tested June 4th, 1894 plug on St. Charles between Soniat & Dufossat.

Q. What was it?

A. Twelve pounds. July 5th, 1894, plug, St. Charles & Octavia streets, fifteen pounds pressure. July 12th, 1894, plug St. Charles avenue and Napoleon avenue, twenty pounds pressure.

Q. Go on?

A. July 19th, 1894 plug St. Charles & Berlin, twenty pounds pressure. July 6th, 1894, plug Magazine & Napoleon avenue, eighteen pounds pressure. September 20th, 1894, plug corner Chestnut & Louisiana avenue, 20 lbs., pressure. November 18th, 1894, that was this fire at Louisiana avenue between Chestnut & Coliseum; there was one-inch pressure, 11 lbs. pressure. The next morning we went out with the four engines that were at that fire that night, and found 30 lbs., pressure on the plugs. December 13th, 1894, plug Berlin & Dryades street, 35 lbs. Engine No. 11, fire Coliseum & Peniston, 15 lbs. pressure. July 6th, 1894, tested with engine and hose plug Napoleon avenue & Pitt, pressure 15 lbs.

Q. Can you furnish any further information on that subject if you have further time?

A. I think that is nearly all the tests that we have of plug pressure registered; we tested the engines frequently, and sometimes they did not record plug pressure.

Cross-examination by Mr. BECKWITH:

Q. What pressure is adequate to give you a proper supply of water?

A. Well, if we can get thirty to thirty-five pounds pressure, we can do pretty fair work.

Q. Anything less than that?

A. Well, it is not sufficient; ten to fifteen pounds is not sufficient.

Q. What means did you take to get this pressure?

A. Well, they took it on a gauge by closing up the engine, and forcing the water into the engine; this is just a record that I have got from the books.

507 Q. How often do you have your water gauge calibrated or tested with the standard gauge?

A. As long as it is in good condition and no report made by the engineer, we don't test it.

Q. Some gauges are ten pounds out sometimes; do you remember any time that the water gauges that you used in this test had been compared with a standard gauge; a standard accurate gauge, and what they term "calibrated" for error?

A. No sir, I don't know anything about that.

Q. Did you ever see a steam gauge or a water gauge tested with a standard gauge?

A. No sir, I never did.

Q. Do you suppose that any two gauges ever agreed?

A. Well, not always.

Q. Well, now what hour of the day did you make these tests?

A. It was generally in the afternoon when the engines were exercising, say between four and six o'clock.

Q. Did you take any means to ascertain whether there were any plugs open on the line, or pipe leading to the plug outside, above or below it?

A. No, but I am pretty sure there was no plugs open.

Q. How do you know; some might be a mile away and a plug opened?

A. Yes, but the captains are always instructed not to open a plug within four, five six or seven squares of where the other plugs are open; and the plugs contained in that district are always opened in the morning.

Q. Suppose that you were testing corner of Louisiana avenue, and four or five plugs were opened down by Lee circle, do you suppose it would affect the pressure up there?

A. Yes, I am positive it would.

Q. Wouldn't it always be well, if you wanted to get the
508 absolute pressure on the mains, to investigate and see whether there was any draft on that main above or below?

A. That is why we made a test in the afternoon, because we were under the impression that the plugs would not be——

Q. If you can find any afternoon when, between the hoodlums and the city authorities there is not a plug open up there, we would like to know it.

A. Now the plugs are opened on account of the drought; but at that time there was not an excuse for the plugs to be open.

Q. Hasn't it been since this reform business started a normal condition, that a plug is opened up there, either to supply private individuals, or other accommodation?

A. I know the plugs are opened every afternoon on all the streets up there; I don't know if it is since the reform business or not; I couldn't say. I know it is opened now since the drought.

Q. You know the distribution up in the sixth district?

A. Yes, I know where the plugs are located.

Q. Do you know the size of the mains?

A. Only just what I was told by men who knew.

Q. Do you know the size of the main on Berlin street?

A. I don't think there is any main on Berlin street.

Q. What?

A. I don't think there is a main on Berlin street. There may be a pipe running in there; there is hydrants on Berlin St.

Q. Do you know the size of the mains on the streets that you have named as having fires on them, that there was not adequate water?

A. No sir, I do not.

Q. How far were either of those fires from Magazine st reet or St. Charles avenue?

A. Well, there is the fire on Louisiana avenue, was two blocks and a half from Magazine street.

509 Q. Would it have been a difficult feat to have doubled up two of your engines and taken water from the St. Charles main?

A. Well, the further it would be to work our lines.

Q. Yes, I understand that: But if you had known that there was only a four-inch main there, you would probably have done that wouldn't you? You wouldn't expect a four-inch main to supply a four-inch hose?

A. No.

Q. Would you look for wate——

A. The largest mains is on Chestnut street, and that is where the engine was; the other engine went on Louisiana avenue, and the third engine was on Magazine street, and another engine was on Toledano street. You couldn't distribute them much better.

Q. How does it happen, that if an engine throws water at all, and has got a high pressure of steam, that she don't throw the water high?

A. She don't throw the water high?

Q. Yes.

A. Well, I suppose it is as I am telling you happened to it; I suppose because it has not sufficient water in the main.

Q. The office of a steam-engine is to make pressure; it has no other office. Do you claim that the pressure that runs your fire-engines, should be put on at the pumping station at the water works?

A. I don't claim anything sir. I am just telling you exactly what happened.

Q. What other office has a steam fire-engine except to make water pressure sufficient to throw water?

A. She couldn't make the water, I don't think.

Q. Answer my question if you please?

A. Yes, I will. I can explain very clearly that the failure on Berlin and St. Charles street was caused by the other engine being connected to the main. If that engine hadn't come there we would have had sufficient water for three engines—not for four engines.

510 Q. It is a mysterious thing to me that with a high-pressure steam-engine you want the water works to furnish you pressure to throw water.

A. What is your question?

Q. What other office has a steam fire-engine except to make water pressure sufficient to throw water?

A. I don't know of any other.

Q. Have you an engine in your department that won't take up water that was at rest, out of a tank, and throw it up to the top of the highest building you have got there, or at least throw it as high as a four-story building with its own energy?

A. No sir, I think that two of my engines would do it. Maybe one there that can't do it.

Q. Those ones that can't do it, are because they have not power enough?

A. That may be, yes sir.

Q. Well now you want the water works——

A. To the top of the highest building? We have one or two large buildings in that district.

Q. Then it is your idea that the water works should re-enforce the lack of energy of your small-sized engines by sending the water into your suction at a pressure?

A. No sir.

Q. What sort of an idea do you have of the necessity of pressure on the mains, if the water is there?

A. Well, I suppose there was not sufficient water in the pipes, or in the mains when these things happen; that is the only explanation I can give sir.

Q. Isn't it possible that there was not sufficient steam and energy in your steam-engines?

A. Oh no; there was sufficient steam enough, because they had plenty of time to get steam.

511 Q. I have seen them twenty minutes getting up steam after they got to a fire?

A. They have ten or twelve squares to go, and they get steam in that time.

Q. Do they have heaters on now?

A. Yes sir.

Q. Did you have them then?

A. No sir.

Q. What is your pressure, 80 lbs.?
A. No sir, 90 lbs.
Q. Ninety pounds you can run cold water into steam pressure of 90 lbs., in what time?
A. If an engine can get out in the street and have a chance to run four or five blocks, you would make it in seven or eight minutes with the heater.
Q. But without the heater?
A. In ten or twelve minutes.
Q. They don't often do it as quick as that, do they?
A. I have seen them do it that quick.
Q. But it is very rare is it not?
A. Well, I don't know about that.

By Mr. FORMAN:

Q. When you have a small main in the ground, it don't operate like you had a big tank, does it?
A. No sir.
Q. Therefore it would be easily exhausted unless there was a great pressure in the main; and a very large reservoir?
A. Yes sir.
Q. And if you had all the steam possible in your engine, and all the force that any engine could possibly make, you could not pump water unless you had water to pump?
A. Unless we had it to feed the engine.
Q. Unless you had a pump with sufficient capacity of water to feed the engine?
A. Yes sir.
Q. If the pipe was too small—I mean the water main, and the pressure in it was too small to furnish the water to the engine, there would be necessarily a deficiency?
A. Yes sir.
512 Q. And that is the condition you found on the occasions you mentioned?
A. Yes sir.

By Mr. BECKWITH:

Q. Your pumps on your engines are of quite a large capacity?
A. They are ordinary engine pumps.
Q. If you hook onto a main that had a large gasket, and did not pump water, you would pump air, wouldn't you?
A. Yes sir.
Q. Wouldn't that lend atmospheric pressure again to the main?
A. I expect so.
Q. You don't count that in as a propulsive means of bringing water?
A. No sir.

FRED. HUFFT, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Bar-room and restaurant.
Q. Previous to January 1899, did you use the water of the water works company?
A. Yes sir.
Q. Did you have a meter?
A. Since about five years.
Q. How much per thousand gallons have you been paying?
A. Twenty-five cents a thousand.
Q. All the time?
A. Yes sir.
Q. Have you got any receipts with you.

(Witness produced receipts.)

Q. Some of your bills here are 25, some 30 and some 40. You paid the amount mentioned in these bills?
A. Yes sir.

Counsel for plaintiff offers introduces and files in evidence the bills referred to by the witness.

H. L. FAVROT, Esq., sworn for plaintiff, deposes and says:

By Mr. FORMAN:

Q. Where do you live?
A. 1571 Henry Clay.
Q. You are a practicing lawyer in New Orleans?
A. Yes sir.
513 Q. Do you use the water of the water works company?
A. Yes sir.
Q. What is the nature of the pressure or supply there prior to 1899?
A. I have on the premises use for the water, for one hydrant in the yard, and for a closet; that is all.
Q. That is all?
A. Yes sir. I paid $20.00 a year for it. I have always paid $20.00 a year.
Q. Have you ever paid more or less?
A. I have two of the receipts here if you want them; one for 1897 and one for 1896. I have all the receipts, but I did not have them at my office.
Q. What has been the nature of the pressure?
A. Well sir, I have had trouble all the time with the company and in 1894 I had so much trouble during the month of October,—during a period of time that I was sick and detained personally at home and could notice the matter—I had so much trouble that I notified the water works company that I would hold them respon-

sible for the damages that would accrue to me for lack of water in the closet. It was getting to be a horrible nuisance in the house to be unable to empty the closet. On one occasion we did not get a drop of water either upstairs or downstairs, and I wrote them to that effect. In response to my letter, they tendered me the amount of my subscription, and as to that I will state my recollection, because I was not able to find it; I had one but not the others. They stated that they had such a demand upon their supply——

Counsel for defendant object to the contents of the letter being stated until its loss is shown, or, until defendant has been called upon, and has an opportunity to present a copy, if Col. Favrot has not the original. And counsel for defendant now announce
514 that they have a copy of the original.

By the COURT: I am inclined to think that the loss of the original has been sufficiently established to warrant the introduction of secondary proof.

To which ruling of the court counsel for defendant except and reserve this note in lieu of a formal bill.

To which objection and reservation counsel for the board of liquidation herein joins.

A. They simply replied by sending me a check for the amount of my subscription, $20.00; thinking that they had such demands upon their mains at the time, that they felt in justice they could return me my subscription until they could do better. I returned them the check the same day with an accompanying letter. I have the press copies of my own letters here, stating that I wanted water.

Counsel for defendant object to the testimony as to the letters.

Counsel for plaintiff offer in evidence press copies of the letters of the witness to the water works Co.

A. A day or two after the second letter was written we got some water in the hydrant in the yard, but none upstairs, and I so notified the company according to my communication there.

Q. How long have you been living at Henry Clay avenue?

A. My recollection is since 1891 or 1892. I am not positive, but either 1891 or 1892.

Q. Has that deficiency in the pressure been of frequent occurrence?

A. Very; every summer in the world sir, I have noticed it. Only of course for short periods. Some hours perhaps at a time, because I was not at home continually, but on this occasion I was at home for three days to my recollection.

515 Q. Were you not notified that the city and health authorities insisted upon opening hydrants to such an extent that they could not send water up with a pressure?

A. I don't remember what particular excuse they gave, but they notified me something to that effect; it may have been the city and health authorities. I don't say that it was not.

Q. You know, at that time they were flushing, don't you, with open hydrants, on the street?

A. I believe they were using water very extensively, yes, sir.
Q. You were aware at the time that the public supply for flushing was growing heavily on the water works?
A. I was told that sir. They sent a man around to the office afterwards to see me about it.

516 STATE OF LOUISIANA, *Parish of Orleans.*

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court, before the Hon. Geo. H. Theard, judge, on the 17th day of November, A. D. 1899; reported by Arthur McGuirk, steno.

JOHN MANDOT, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a dyer?
A. Yes sir.
Q. Your place is 814 Poydras street?
A. Yes sir.
Q. Did you use the water of the water works company previous to the present year?
A. Yes sir.
Q. What have you—how many openings?
A. We have two faucets now.
Q. You have a meter?
A. No sir.
Q. How much did you have in 1898?
A. 1898, two faucets.
Q. How long before that did you have two?
A. Well, I had the place since 1886. We fixed that, and sometimes we had six faucets, four or three. It depends what I do, that I put in. That is not the amount for me.
Q. You say you have had five or six faucets?
A. Two now.
Q. I don't ask you now, I ask you about 1898, Mr. Mandot?
A. 1898, two.
Q. In 1897, how many?
A. I had three.
Q. In 1896 how many did you have?
A. In 1896, I had four.
517 Q. What have you been paying in those years?
A. I have been paying sixty cents since 1890—sixty dollars.
Q. Sixty dollars every year?
A. Yes sir.

Q. Have you got any receipts with you?
A. Yes sir. Since 1886 to 1889 I have been paying $45.00.

(Witness produces signed receipts, which are offered, introduced and filed in evidence on behalf of plaintiff, being for the years 1890, 1891, 1892, 1893, 1895, 1896, 1897, 1898, starting with forty-five dollars, and the rest of them for $60.00.)

Q. Were you in the same business all the time?
A. Yes sir.
Q. Same water facilities—did you use the same quantity of water, same amount of water?
A. Not so much now; the business is a good deal overdone.
Q. You say not so much?
A. About three years the business has gone down a little.
Q. You mean for the last three years you have not been using it so much?
A. No sir.

Cross-examination by Mr. BECKWITH:

Q. What other business did you carry on in your premises besides dyeing?
A. Barbar shop.
Q. How many chairs in the barbar shop?
A. Three.
Q. Did you have any baths there?
A. No sir.
Q. How many dyeing tubs?
A. Have two.
Q. Did you ever have any more than what is there now?
A. Well, we had a little business—we have a barbar store; we have never thought of the tubs.
Q. You have a steam-engine there too, haven't you?
A. Yes sir.
Q. How large an engine is it?
A. We have no engine there; we have an electric motor.
Q. You did have a steam-engine in 1896 didn't you?
518 A. No sir. I have the electric motor since 1891. The steam-engine is there but I never use it.
Q. You use a steam boiler there for dyeing don't you?
A. Yes sir.
Q. How many horse-power boiler?
A. Six.
Q. You did not, at any of this time take steam from that boiler for an engine?
A. Engine? Never use it I tell you.

By Mr. FORMAN:

Q. What have you to do with the barbar shop?
A. Nothing to do. It does not belong to me, I rented it, that's all. And he never used the water either.

Q. He don't use the water there either?
A. No sir.
Q. Is that barbar shop in the same room or adjoining?
A. No sir, we have a little front store for the barbar shop, and it has no connection with the house, except getting water from the cistern and the closet.

By Mr. BECKWITH:

Q. What sort of premises are you in—one single building of how many stories?
A. Well, your honor judge, two stories here. It is one in French. I don't know.
Q. Where do you do your dyeing downstairs or upstairs?
A. Downstairs in the back.
Q. Where is the barbar shop?
A. The barbar shop is on the front, in the street.
Q. Have you got a yard hydrant?
A. No sir, the hydrants are in the middle of the shop. Nobody has nothing to do with it, except me.

Prof. ORDWAY, recalled for plaintiff.

By Mr. FORMAN:

Q. Have you produced the plan and method that you would adopt for the purpose of clearing water?
A. I have it here.
Q. Will you describe it, so that the unprofessional man will have some definite idea about it?
A. I can describe it most easily by means of a model.
519 (Witness produces model.) This shows the construction of a large apparatus. The apparatus for settling consists of a single cylindrical tank with a chronicle bottom. From the bottom comes a tube which is shown here. In this case, it is India rubber; in using this apparatus, it is filled in the first place with the dirty water. The coagulant is poured in, a very small quantity of coagulant, about as much as would be contained in that phial. It is stirred up.

By Mr. BECKWITH:

Q. How much is that phial, an ounce or half an ounce?
A. No, it is not half an ounce, it is about an eighth of an ounce; after stirring up about five minutes the mud has settled; then this pipe is lowered a little so as to bring it below the level of the water in the tank, and the mud is drawn off—drawn off in about two minutes. This is then hitched up again, and the water may be allowed to stand and settle for six or eight hours, when it becomes clear, or it may be filtered immediately. An apparatus constructed on a large scale would have to be built a little differently from this, but this illustrates the principles essentially. It could be made either of iron or brick.

By Mr. FORMAN:

Q. In other words then, your plant would be a series of tanks?

A. A series of tanks; it would take about twenty of the size I propose.

Q. A series of tanks into which the water would be pumped from the Mississippi river?

A. Yes sir.

Q. And in those tanks, after the water got in there, you would put a certain portion of your coagulant?

A. Either put it in after it gets in there, or put it in on the way.

Q. What is the proportion?

A. The proportion is—let me think a moment: It is a pound to six thousand pounds of the strength that I have here. I have some of the coagalant here.

520 Q. You have there a bottle of the coagulant according to the formula that you gave us the other day?

A. Yes sir.

Q. And you have not stated the proportion?

A. It would be about in that proportion; one pound to six thousand pounds.

Q. One to six thousand?

A. You can make that of different strengths. I should make it weaker in order to make it distribute more easily through the tank. This is some of the Mississippi River water, taken out—ithas gotten a little coagulated already by standing so long—it was taken out on the 2nd of February. It was settled for nine minutes and then filtered through a course filter into which it runs about as fast as you can pump it in. In filtering this we had gotten rid of a little over $\frac{99}{100}$ths of all the sediment. There was less than one per cent. of the sediment taken out. Consequently a filter will last a long time when the sediment is mostly taken out in that way.

Q. Then your plant contemplates the coagulation of the sediment, and the removal of it in that way?

A. Yes sir.

Q. And a filter will last a very much longer time, because ninety-nine per cent. of the sediment has already been removed by the coagulant?

A. Yes sir; I prefer to filter, because sometimes there are living things in the water, which don't go down with the mud. I have found in one case little shrimp in the water that had been cleared, and it is desired to take out living things of that kind.

Q. That could be operated upon a large scale to supply the city of New Orleans?

A. Yes sir, I think it could?

Q. And economically?

A. Well it would. I can't say the exact amount because that has to be proved by experiment. But it could be done economically. The coagulant would have to be made on the spot; it can be made much more cheaply than it could be furnished by any contractor.

521 Q. A skillful manufacturing chemist would have no difficulty in making the coagulant under your direction?

A. He would not.

Q. Or with the formula you would give him?

A. Well I should have to see him.

Cross-examination by Mr. BECKWITH:

Q. You call these working or construction plans?

A. That one is.

Q. Which one?

A. This one. (Witness refers to plan "X–A." The other one was merely a sketch, which was not wrought out.)

Q. Is this a contrivance which you planned for the public service and public water supply in the city of New Orleans, if adopted?

A. It is.

Q. Your scale is how much?

A. $\frac{3}{16}$ths, of an inch to a foot, for the one side, and one inch to the foot for the other side.

Q. Then, this is a plan for the manufacture of a triflingly small apparatus, compared to one necessary to furnish eighteen or nineteen millions gallons a day?

A. Not at all, that is calculated for a very large tank; that is a tank 30 feet in diameter, and the whole height, 37 feet.

Q. How much do you——

A. The scale has nothing to do with the size of course. You may have a scale of one-quarter of an inch—you may on a scale of one-quarter of an inch put anything into the space of an inch that you choose.

Q. Under that scale,—I haven't the measure here, what is the height*h* of the foundation?

A. The foundation is a little bit larger than——

Q. What is the height*h* of the foundation?

A. The height*h* of the foundation up above the hopper is supposed to be four feet; but it can be made any height*h* you want; it is not a material part.

Q. How many of these tanks do you propose for a water-works system for New Orleans?

522 A. About twenty of them.

Q. To hold how many gallons each?

A. To hold, I think it is, something like a hundred thousand gallon- each; at any rate the twenty of them would hold 2,000,000 gallons.

Q. What would that do for a water supply for New Orleans, when yesterday we pumped 19,000,000 gallons?

A. I was calculating on 12,000,000. Of course you can multiply the number of tanks *ad libitum*.

Q. What would be the vertical water pressure on a hundred-thousand-gallon-tank, of the measurement that you estimate as necessary to hold a million gallons?

A. It makes no difference whether it is a hundred thousand gallons or 50,000 gallons; the water pressure depends upon the height to which the water is pumped.

Q. I know that perfectly well; but I ask you what it would be in the tanks of your estimated size?

A. Oh, the pressure on the bottom of that tank would be 17 lbs., to the square inch.

Q. The lateral pressure on the bottom would be substantially the same wouldn't it?

A. It would.

Q. What is the tensil- strength of iron?

A. The tensil- strength of good iron is about 60,000 lbs. to the square inch.

Q. You have given us the thickness that would be necessary to hold——

A. Yes sir the thickness with a large allowance for the possibility of bursting, with a factor of safety, of about four.

Q. Did I understand you to say that you had a scale here for a tank that would hold a million?

A. That small one would hold a million gallons; the small one marked "X–B." That is on a small scale, $\frac{3}{32}$nds, of an inch to a foot.

Q. What would that make the height in figures there?

A. The height would be something over 100 feet; it would be 115 feet

523 Q. What would be the diameter?

A. The diameter of this is—I don't recollect what it is, but the diameter is calculated for that; this is not intended for New Orleans; this is intended for a small town. It is intended to do the settling in the tank itself—settling and storing in the tank itself.

Q. Didn't I understand you to say that that scale was a scale for one to hold a million gallons?

A. This one is.

Q. Well now will you tell us if you have worked out mechanically—mathematically the thickness and tensil- strength of the iron that would be necessary to construct that?

A. The tensil- strength of the iron? The plates would vary in thickness from the bottom up; as I have given it here, I should make the lower plate an inch, the next one $\frac{7}{8}$, the next one $\frac{3}{4}$, the next one $\frac{5}{8}$, the next one $\frac{1}{2}$, the next one $\frac{3}{8}$, and the next one, $\frac{1}{4}$, and so on.

Q. Is your calculations made on fibr-us iron or on steel?

A. On the best of iron. For steel, the thickness would have to be only two-thirds of that.

Q. Now when you have got in your system, as you have set it out in this plan that you have submitted to us as being your project for water works in the city of New Orleans, what would be the total elevation or height of the water at the top of your tanks, at the time you had them precipitated?

A. The total elevation of the surface of the water, would be about forty feet.

Q. What is your means, not delineated in your plan, for making that supply available for city use, on a pressure of eighty feet?

A. On a pressure of eight feet?

Q. Eighty.

A. I have not calculated that.

524 Q. How would you get that filtered water—clarified water?

A. The clarified water has to be pumped into the receiver, or reservoir; the reservoir I have not drawn, because that is a very simple matter.

Q. How is it simple?

A. You simply have a tank which may be in the ground, if you have a high hill, or it may be of iron and rest on a foundation consisting of brick.

Q. But we simply don't have any high hills here?

A. No, that's very true.

Q. And we have a very troublesome foundation?

A. Yes, I know that.

Q. What in your opinion, would be the weight that a foundation, sustaining one of your ten tanks, would have to bear, when the tanks are full?

A. That I have not calculated on.

Q. Isn't it quite important in determining the feasibility of your plan?

A. No sir, it is not important. It would not be as heavy as an ordinary high building

Q. Did you ever make a foundation here?

A. Yes sir.

Q. For what?

A. Not to any extent, but for small affairs.

Q. Approximately what you think your tanks and a million gallons of water would weigh, that that foundation would have to carry?

A. For a million gallons it might weigh some thing like 200, tons; that is a very rough guess.

Q. Tank of water?

A. The water would weigh more than that.

Q. Well, it has got to carry both. Your foundation without settling must carry the weight of your tank, the weight of your water, and the weight of your appliances and fixtures?

525 A. That is a matter that I have not——

Q. It is a very important matter, and I would like you to give us the best estimate that you can?

A. That is a matter that I have not figured on, because it is not essential to the plan. It has got to be done anyhow if you have reservoirs, you have got to build them anyway on any plan you make for a foundation; therefore, I have not troubled myself about it.

Q. A reservoir is a mechanical construction that does not occur;

it has to be constructed, and costs money, and I am getting at your 20c. a million gallons.

A. I have said nothing about twenty cents a million gallons for the storage of the water, it is simply to clarify it.

Q. Oh, it is simply the expense of your precipitant?

A. Yes sir.

Q. Then you have not the faintest idea, and would not like to give us the necessary expense to put it in operation?

A. I have not calculated it at all, because the storage part is independent of the other. It is independent of my plan.

Q. Yes, but you can't take a bucket of water and put your precipitant in it, and have it distribute itself around the city of New Orleans?

A. Of course not. But you know——

Q. You are saying as I now understand it, that you have a plan, the details of which you have elaborated, by which a supply of water, free from opalescent tint, and sediment, can be delivered to the consumers in the city of New Orleans?

A. I don't say that; I don't say anything about the cost of delivery to consumers. I simply have spoken of the cost of clarification.

Q. Oh, that is after the water has been pumped into your tanks, that the chemicals that you put in, can be put in for 20c. a million gallons.

A. Or less, yes sir.

526 Q. Leaving out——

A. Not twenty cents a million gallons; twenty cents per hundred thousand.

Q. You might as well put it at a million, because it would be a more convenient number.

A. Twenty dollars for a million.

Q. When you told us the other day twenty cents a million, you meant you could drop in your chemicals for that?

A. Certainly.

Q. No calculation about its being pumped over sixteen or eighteen or a twenty foot lift on the river to the tank, and then pumped from the tank into a——

A. No, I made no special calculation about that; not knowing how the height*h* of the river varies.

Q. Did you ever happen to see a pump in operation, and watch its operations, that was pumping at the rate of fourteen millions of gallons a day?

A. I don't know that I have.

Q. Did you ever watch the intake of any such pump, to see the terrific rush of water into it?

A. The intake cannot be seen very well; it is usually taken in, in a pipe.

Q. Clear water can be seen can't it?

A. No sir, it goes to the pump in a pipe; you can't see in the pipe.

Q. I saw the intake, which is of course, at the water end of the suction?

A. At the entrance of the pipe?

A. I have never looked at that particularly.

Q. About how long do you think the mud would stop in the bottom of one of your million-gallon tanks, if it was deposited, and you started a fourteen-million-gallon pump sucking out of it. Do
527 you — atom of water and mud in that place, in that tank that would not be in motion in an instant?

A. Yes.

Q. What?

A. I think there would be considerable that would not be in motion.

Q. How long?

A. I can't say about that.

Q. Could you take that water off from this deposited sediment, by a suction of a pump with a lift enough to supply nineteen million gallon- of water a day to this city, without stirring it from the bottom, clear to the top?

A. I think it could be done.

Q. But you don't know?

A. I don't know positively; that is one of those matters that has to be determined.

Q. And that you have not determined?

A. I have not, no sir.

Q. Now, assuming that the present installation of pumps that we have here, to pump water into your system of tanks from the river, have you the faintest idea of the expense of another installation for pumping that water into the mains?

A. I don't know about that; I have not studied into the cost of the installation for the pumps.

Q. Have you the faintest idea whether it would cost a hundred thousand, two hundred thousand or half a million?

A. What, the installation?

Q. Yes.

A. Certainly; I don't think it would cost half a million.

Q. You say you examined our pumps at the station?

A. Not closely; I have seen them.

Q. Well, you saw the pump on the up-river side of the building?

A. I did.

528 Q. Saw two pumps there?

A. Yes, sir.

Q. Do you know what kind of pumps they were? Did you see of whose manufacture they were?

A. I did not.

Q. Did you ascertain on what system they operated?

A. No sir, I didn't examine them very closely.

Q. Can you guess what the expense of those two pumps were?

A. No, I can't.

Q. Can you guess how much water they would pump?

A. No, I can't do that.

Q. Then it is practically true that the expense of installation o

machinery and structures of the character that you propose in your system, you have had no practical experience about, and are unable to make any construction estimate?

A. I can make a construction estimate of that—that is for the settlers.

Q. As to what they would cost?

A. Yes sir.

Q. Well, what is it?

A. That is an approximate one; they would cost about four thousand dollars apiece.

Q. With a diameter of what?

A. 30 feet.

Q. And the height what?

A. The height is altogether 35 feet.

Q. What is the thickness of the cast iron you would put in?

A. An inch.

Q. How many tons of cast iron in that?

A. There would not be more than a ton.

Q. Not more than a ton?

A. No sir, I have had plenty of kettles made of cast iron, which did not come up to a ton.

Q. How much does a cubic inch of cast iron weigh?

A. A cubic foot weighs five hundred pounds.

Q. In estimating the expense of castings less than a foot thick, is it not done by the cubic inch?

A. Of course it can be done either by reducing it to cubic
529 feet, or by calculating it by cubic inches.

Q. How many cubic feet, do you remember?

A. I have not estimated the exact cost of the cast iron.

Q. Well, that can be easily estimated, if you can give us the number of cubic inches or cubic feet that we can get the inches from.

A. That I will have to estimate.

Q. What weight did you tell me you thought it ought to have?

A. It would be not over a ton.

By Mr. FORMAN:

Q. Let me understand you distinctly; the cost of your coagulant you said was twenty cents a hundred thousand gallons?

A. Yes sir, that would be the extreme I think.

Q. That would be the maximum?

A. Yes sir.

Q. Then that would be $2.00 a million and not twenty dollars; did you not make a mistake in answering that question?

A. Oh, I made a little error there; it should be different. I should have stated differently. I was thinking of $20.00 per million.

Q. Which is right?

A. It would be $2.00 for a hundred thousand.

Q. Which is it; do you mean $2.00 a hundred thousand, or 20c. a hundred thousand?

A. No, it is 20c. a hundred thousand.

Q. Which is $2.00 a million?

A. No, it would be a hundred thousand multiplied by twenty, gives twenty hundred thousand.

Q. Ten hundred thousand is a million?

A. Yes, sir.

Q. And 10 times 20 would be $2.00; is it 20c. for one hundred thousand gallons?

A. Well, I have reckoned it all along at $20.00 per million, and it should be in that proportion for smaller quantities.

Q. That's what I wanted to know. Twenty you meant $20.00 for a million or $2.00?

A. I meant $20.00 for a million, it is 20c. a thousand gallons.

530 Q. Well, now explain what you mean as to that, because it has gotten us into considerable confusion here?

A. Well, the cost would be as I have said it would be, two cents for a thousand gallons, and not necessarily as much as that.

By Mr. BECKWITH:

Q. I forgot to ask you the process of cheap manufacture of this so-called basic salt of iron, and basic salt of aluminum that you spoke of. How do you construct it? Out of what? Breaking up what combinations?

A. The stuff may be made in several different ways.

Q. Give us one way that is cheap?

A. One way is to take the sulphate of alumina, and precipitate it with carbonate of soda, making aluminum; that aluminum is then dissolved in a small quantity of chloride of soda; that gives the basic aluminum; the chloride of iron is made by dissolving iron in hydrochloric acid.

Q. What do you call it, "basic"?

A. It is made basic by mixing it with sulphate of alumina. I make a four-basic sulphate of chloride of alumina, and mix it with a normal chlorade of iron.

Q. Will you tell me what form of sulphate of alumina is solvent in hydrochloric acid?

A. The salts of alumina, and various other salts are solid with water, and the alumina itself is soluble in hydrochloric acid.

Q. I ask you what one of the salts of alumina is soluble in hydrochloric acid?

A. Well, the sulphate and nitrate, and chloride, and the sulphide and a great many others are soluble in water.

Q. You take the sulphate and you precipitate it, you say, and that you dissolve the precipitate with hydrochloric acid?

A. Yes sir; the precipitate consists of alumina, not of a salt.

531 Q. That's what I am trying to get at?

A. That's a very simple matter.

Q. I want to know how?

A. We precipitate with carbonate of soda. We precipi-ate*t* alumina from the sulphate of alumina.

Q. So will ammonia won't it?
A. Yes sir.
Q. The result is what?
A. Hydrate of alumina.
Q. And you found some hydrate of alumina that is soluble in hydrochloric acid?
A. Yes sir it is always soluble in hydrochloric acid.
Q. The precipitates of any of the elements with and of the bases?
A. Yes sir; we may take ammonia or carbonate of soda, or carbonate of potash, or co-stic soda and co-stic potash.
Q. What difference is there with you between what you term your basic chloride of iron, and the ordinary commercial chloride of iron?
A. The chloride of iron that I start with is the same, but when it is mixed with basic chloride of aluminum it becomes basic.
Q. And they combine chemically?
A. They combine chemically.
Q. In breaking up?
A. In breaking up.

By Mr. FORMAN:

Q. You were asked the other day by Mr. Beckwith to make some calculations; have you made them?
A. I have made one; the other question I forgot what it was. But the first one had reference to the quantity of coal required to pump the water, and I have made three calculations, three different ways. In the first place: One pound of steam, at 100 pounds pressure by the gu*a*ge, measures three and eight-tenths cubic feet; one pound of steam at 212 Fahrenheit, measures 27 & $_{1}{}^{3}{}_{0}$ths., cubic feet. One pound of coal gives 8,½ pounds of steam, at 100 pounds pressure. Thus we take 3,$_{1}{}^{8}{}_{0}$th., times 8,½, which is equal to 32,$_{1}{}^{3}{}_{0}$ths., cubic feet, which would expand to 27 & $_{1}{}^{3}{}_{0}$ths. multiplied by
532 8,½ which is equal to 131$_{1}{}^{2}{}_{0}$ths., cubic feet; the amount of expansion, 198$_{1}{}^{8}{}_{0}$ths., cubic feet. In explaining the last amount—in expanding to the last amount it would exert an average pressure of about fifty pounds to the square inch, which is equal to 7200 pounds per square foot.
Q. Expanding in a cylinder of one square foot, it would raise 7,200 pounds. 198$_{1}{}_{0}$ths., feet, or, 14,321 pounds, 100 feet, theoretically. Practically, we must allow about one-third for friction, and other drawbacks; thus we have two-thirds of 14,321, which is equal to 9,548 pounds of water raised 100 feet, by a pound of coal.
Now the second solution; with a good engine and boiler, two lbs. of coal will give one-horse power per hour. One-horse power is 32,000 lbs., raised one foot per minute, or sixty times 33,000 which is equal to 1,980 thousand pounds per hour. This makes 999,000 lbs., raised one foot by one pound of coal, or 9,900 lbs. of water raised one hundred feet by one pound of coal.
That is the second mode of calculating.
The third is simply calculated from an experiment: It was found by actual *r*xperiment at Lawrence, Massachusetts.

By Mr. BECKWITH:

Q. In your presence?

A. Not in my presence, no sir. It is published; I take this from a book.

By Mr. FORMAN:

Q. Published in a scientific work?

A. Published in a scientific work; in Clark's Tables of Engineering Statistics, a standard work.

Counsel for defendant objects to any proof in that form. That if the proof is to be administered, the work itself would be nearer primary proof.

A. This is the actual work, as correctly reported.

By Mr. BECKWITH:

Q. You were not present at the test, and you saw nothing
533 of it; you are now undertaking to give us what you read in the newspaper; if admissible at all, the newspaper is the best evidence of it.

A. I have not read it in a newspaper; it is in a regular scientific work, which is what we consult on various occasions; we have to consult those works. We haven't observed everything ourselves anyway.

Q. What work is it?

A. This work is a work by Mr. Clarke—a standard work—and he quotes these experiments which were made at Lawrence.

By Mr. FORMAN:

Q. What is the title of Mr. Clarke's work?

A. Mr. Clarke's work is a "Manual of Rules, Tables, &c., of Engineering."

By Mr. BECKWITH:

Q. You don't know whether it was in a single, or a compound or a quadruplex or triplex engine?

A. I was going to state what that was. It was found by actual experiment at Lawrence, Massachusetts.

Defendant's counsel renew their objection.

By the COURT: I think the witness has the right to quote from scientific works upon the subject, provided he qualifies the statement as he does, that he is quoting from a scientific work.

(By the WITNESS:)

A. Page 948, if you want to refer to the book itself—I don't know as there is another copy on New Orleans, except what I have myself; it should be in every engineer's library. It was found by actual experiment at Lawrence, Massachusetts, that with a boiler giving 8 & $\frac{27}{100}$ths lbs. of steam, at 90 pounds pressure, with

100 pounds of Cumberland coal, and a compound engine of two cylinders, one pound of coal gave 962 thousand foot
534 pounds of energy. That is, one pound of coal, raised 9,620 pounds of water, 100 feet; that is calculated from the actual data given, it amounts when coal is $3.00 per ton of 2,000 lbs., to one cent's worth of coal. When coal is $3.00 per ton of 2,000 lbs., one cent's worth of coal should raise 7696 gallons 100 feet.

Q. What is "Cumberland" coal. It is an anthracite coal isn't it?

A. No sir, it is a semi-bituminous coal used a great deal in the East for raising steam.

Q. Where is it found?

A. It is found in the western part of Maryland.

Q. Do you know anything about its relative heating capacity to Pittsburg?

A. It will give about the same amount of heat as Pittsburg coal.

Q. How do you know?

A. Well, I know by the books; by the statements, and the analysis that has been made, and the trials that have been made.

Counsel for plaintiff offer, introduce and ask to be filed in evidence, the calculations, bottles, sketches and plans produced by the witness.

J. T. DELAHY, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?

A. I am manager for the Atlantic & Pacific Tea Co.

Q. Previous to the year 1899, did you use in your business, the water of the water works Co.?

A. Yes sir.

Q. For how long?

A. Several years.

Q. How many years?

A. I think either two or three; I have receipts, though in my pocket.

Q. Have you a meter?

A. No sir.

Q. What are your facilities?

535 A. We have one hydrant at the stable for the horse and wagon, and one hydrant at the store.

Q. Have you your receipts?

A. Yes sir. We have used water for not a great while. (Witness produces receipts.) That is all the money we have paid over.

Q. Are these receipts for both places?

A. That is for the stable; we moved in the meantime. One is for Tulane avenue, and the other is for Howard street.

Q. This bill of January 1st, 1897, is for the stable alone?

A. Yes sir.

Q. The bill dated January 16th, 1898, that is for the stable alone?
A. Yes sir.
Q. And the bill dated January 16th, 1899, is for the stable alone?
A. Yes sir.
Q. Was there any addition to the facilities or amount of water you used during these three years?
A. Well, the receipt there you will see covers for a different number of vehicles and horses for each year, but the price was the same.
Q. Well, as a matter of fact, what is the difference in consumption or in number of heads?
A. I don't remember at this time. That receipt though tells that.

Counsel for plaintiff, offer, introduce and asks to be filed in evidence three (3) receipts produced by the witness.

Q. What did you pay for the use of the water in the store?
A. $12.00.
Q. What facilities did you have there?
A. One wash-basin.
Q. How long did you use that?
A. That is for the present year.
Q. When did it commence?
A. I think it was March or February—March 20th.

Objected to by defendant's counsel.

Q. You didn't have any before?
A. No sir.

536 S. G. KREEGER, Esq., sworn for plaintiff:

By Mr. FORMAN:

Q. You are a merchant on Canal street?
A. Yes sir.
Q. Previous to January 1899 have you used the water of the water works company?
A. Yes sir.
Q. You have a meter?
A. No sir.
Q. What facilities did you have at your store?
A. I have a water-closet, two wash-basins, and a hydrant for filtering for drinking purposes.
Q. What rate have you been paying?
A. $25.00.
Q. For how many years?
A. Oh, for a good many years; I can't recall.
Q. The same rate all the time?
A. I think so; I am not sure. I have no receipts, except for this year. Last August, a year ago, the Osborne fire burnt the rear of the store and soiled my papers.
Q. Previous to the year 1899 where did you live for several years?

A. I lived on Henry Clay avenue, and on Broadway. Henry Clay for five years.

Q. Did you have any hydrant water at the Henry Clay Avenue house?

A. Yes sir.

Q. What facilities?

A. I had a bath-room, two water-closets, two wash-basins—well, I don't remember whether the wash-basins were connected with the water works or not; I can't recall it. It is a good while ago.

Q. How much did you pay there?

A. $35.00 I think. I have the receipts but I think that was the figure, $35.00. We had two hydrants downstairs for watering our lawn and flowers.

Q. What was the size of the lot?

A. Well, the lot was about 150 by about 30, and it had a frontage of 75, by about 20 or 25; sidewalks; grass plots—we used a good deal of water for the lawns; used more for them then for any other purpose. I had a horse too—two horses sometimes.

537 Cross-examination by Mr. BECKWITH:

Q. Was your house on Henry Clay avenue, on a corner?

A. Yes sir.

Q. Have you got a frontage on both streets?

A. No sir. Only the frontage and the depth; the depth was 150 feet; we had a lawn on the inside; then there was 150 frontage on one side.

Q. And twenty-five on the other?

A. Seventy-five.

Q. Making two hundred.

A. Seventy-five.

By Mr. FORMAN:

Q. Your place was 75 feet front on Henry Clay avenue, by 150 feet deep?

A. Yes sir.

A. S. GELPI, Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. What's your business?

A. Grocery business.

Q. Where?

A. 216 Royal.

Q. Previous to 1899 have you used the water of the water works Co.?

A. Yes sir.

Q. What are your facilities there—your openings?

A. Well, I don't use the water works for the last three years.

Previous to that, when I bought out Mr. Tourne's place there was only one opening.

Q. How much did you pay for that?

A. As far as I recollect I think fifteen or sixteen dollars.

Q. Did you use it at your residence?

A. No sir—I used it, yes, but not since the last eight years.

Q. Previous to that?

A. I did, yes sir.

Q. How long did you use it at your residence?

A. I suppose from 1887 to 1891, that way.

Q. Well, what facilities did you have there?

A. I had no trouble with them at all sir.

Q. What openings did you have, what was the size of your premises?

A. Only one sir.

Q. One hydrant?

A. Yes sir.

Q. What did you pay there?

A. For the house, $12.00.

538 Q. Uniformly twelve?

A. Yes sir.

Q. Were you ever at 40 Royal?

A. Yes, I am there now.

Q. That is old number forty?

A. That is old number forty. It is number 216 now, new number.

By Mr. BECKWITH:

Q. Your family lives there, do they not?

A. No sir.

Q. There is a family there?

A. No sir.

Q. How many slop sinks have you got?

A. I have none at all; I don't use the water works there at all; I have used it for a couple of years.

Q. You used it in 1897, didn't you?

A. Yes, and that was the last too.

Counsel for plaintiff offers in evidence the receipts produced by the witness.

TONY BRASCO, Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. You keep a restaurant on Gravier street?

A. Yes sir.

Q. Previous to the 23rd of January 1899, have you been using the water of the water works company?

A. Yes sir.

Q. For how long?

A. Well, I took the water there on the 10th day of November, two years ago this month. Just opened up there two years ago on the 11th. of this month, and got the water the day previous to opening.

Q. What facilities have you for water there?

A. I have two faucets in the yard; two washstands that's all sir.

Q. What price did you pay?

A. $80.00.

Q. Both years then?

A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. Any urinals?

A. No sir. Oh yes, I beg pardon sir; I forgot the urinal back in the yard—one.

Q. What kind of a urinal is it, basin urinal, or perforated tube?

A. Just as a basin and the water drained off, dripping very slowly.

Q. That is quite a large restaurant that you have there.

539 You do a good deal of business?

A. Well yes, we do pretty fair. We use water for washing; we filter it for cooking, and drinking, and wash the banquettes, bring it out in buckets and so on.

By Mr. FORMAN:

Q. Have you got any other place where you use water?

A. I have 113 & 115 Baronne street, known as the "Smile saloon."

Q. What facilities have you there?

A. I have one faucet to wash glasses, and two urinals.

Q. What do they charge you there?

A. I was paying $30.00 per year up to last year. I only had one urinal, and I added another one then since that, and I am paying $33.00 per year, commencing from the 1st of July to July next.

Q. Did you ever make any complaints to the water works company or ask for a reduction on your cutting off part of the supply?

A. I did when I first took the place about nearly nine years ago. There were two faucets under the counter, which the other party, previous to my buying the place, they were using there to wash glasses; but I made different arrangements and I cut them out. Had two faucets which Mr. Hartwell put in for me, and I wanted to wash glasses back in another place, back of the bar, in another room. The only application I made I spoke at the office there, about three years ago, I guess it was, that I had cut off two faucets, and if it made any difference about the price of the water, and I was told that keeping a saloon, and using a good deal of water for washing and scrubbing, and also keeping an oyster shop there,—you know we use the water for the oyster shop to wash barrels, etc., and that the water at $30.00, they said it was about reasonable enough; so I made no further complaint, I stopped on that.

Q. The charge is made for the business and not for the business, is that it?

540 A. Well no, I can't say that. On account of us using a great deal of water washing the banquettes, and we have a lot of oyster barrels, shell barrels there that we have to scrub and wash a great deal, and a great deal used out of this one faucet that I have to supply both sides, both the oyster shop and the bar.

Q. Before you cut those faucets out did you have any conference with the water-works people as to the reduction?

A. No sir, not at all.

MILES S. WATERMAN, Esq., sworn for plaintiff:

Direct examination by Mr. FORMAN:

Q. Are you connected with the Waterman Carbonated Beverage Manufacturing Company?

A. I was sir.

Q. We have offered in evidence here, suit No. 22,394——

By Mr. KRUTTSCHNITT: No, you have not offered it in evidence.

Counsel for plaintiff offers and asks to be filed in evidence suit No. 22,394 entitled Waterman Carbonated Beverage Manf'g Co. *vs.* N. O. Water Works Co.

Objected to by defendant's counsel as irrelevant, and on the further ground that no judgment was ever obtained in the suit.

By the COURT: The objection is overruled.

To which ruling of the court, defendant's counsel except, reserve a bill, and make this note in lieu thereof.

To which exception, ruling and objection, counsel for the board of liquidation herein joins.

Q. Was this carbonated beverage manufacturing company engaged mostly in manufacturing soda water—was it not?

A. Manufacturing soda water, yes sir.

Q. Was it using the water of the water works company?

A. Yes sir.

Q. What rate was the water works company charging before this suit was filed?

541 —. The water works Co., was charging $120.00 at the time of the institution of this suit.

Q. You didn't have a meter?

A. Had no meter.

Q. How long had that been going on—how long had they been charging, before the filing of the suit, $120 a year?

A. That I don't know. The matter was arranged by me afterwards—at least by my father. I do know that he paid the three years previous to that, under protest, $120.00.

Q. $120.00 a year under protest?

A. Yes sir, $120.00 a year under protest.

Q. After this suit was filed it was paid?

A. Nothing was paid until the compromise was effected.
Q. What was the amount paid after the compromise?
A. The amount that we offered $50.00 a year.
Q. $50.00 a year?
A. Yes sir.
Q. Did they refund him any money?
A. Yes sir; I don't know the exact amount, but it was refunded. I believe his claim was—he asked for the refunding of the difference on those three years that he had paid under protest.
Q. Since this suit, you had been paying $50.00 a year?
A. Paying $50.00 a year up to 1898, yes sir.
Q. Then what?
A. Then a new company was organized, which I represent, the New Orleans Soda Water Company, Limited. And we have been using a meter.
Q. And then what?
A. We have been using a meter, water meter.
Q. How much a thousand have you been paying under the meter?
A. Thirty cents.
Q. Have you got any receipts?
A. The company was organized on the 1st. of February 1898, so that on the 1st of January we had already paid $50.00, and a credit was made on the meter record of that $50.00 that had been paid.
Q. I notice that on your receipts it is calculated at ten gallons
542 per cubic foot, and on the receipt of Mr. Losch, it is calculated at eight gallons per cubic foot?
Q. Can you explain why you got more gallons per cubic foot in your establishment than anybody else?
A. No sir; it was a matter I did not notice until last evening, and I have not had time to look into the matter.

Cross-examination by Mr. BECKWITH:

Q. In 1887, what was your output of soda water per week?
A. Well, that I am unable to state sir. I don't know without referring to the books.
Q. Can't you approximate it?
A. No sir, I cannot.
Q. What is your output now?
A. I couldn't give it off-hand.
Q. But you must have some kind of an idea. It was pretty near uniform wasn't it?
A. You mean as compared to the present?
Q. In syphons and in tanks?
A. We don't have any syphons at all; just simply fountain business.
Q. What was the amount of fountains per week?
A. Well, that I don't know; it varies according to the season, and different seasons vary; two years will not be alike.

Q. I understand that; but you can tell us can't you what your largest output was approximately in the matter of the soda water? In the time that soda water is sort as a beverage, the hot months?

A. Well, I suppose in 1887 it may have been about 300 fountains a week.

Q. What else did you use water for on the premises?

A. For any other purpose that was attaching to the business. The matter of watering the stock and necessary washing purposes.

Q. How many horses and wagons did you have?

A. About five head of stock, I suppose and four wagons.

Q. How many employees on the place?

A. Well, I don't know, six or seven.

543 Q. Is it not a fact that the dispute between you and the water works company, was, at the time this suit was filed, as to the quantity of water used; you claiming that you did not use as much as the company thought you did?

A. Well no; I think it was on the question of the price.

Q. Well, the price is based upon the supposed amount of water used. I say is it not a fact that the dispute between you and the company was, that they thought you used more water than you thought you did?

A. I believe so now, yes. I believe, as my father talked with Mr. Gardner, I think the estimate was, for 300,000 gallons—that our pipes would run 300,000 gallons running continuously; and charged at the rate of 40c. a thousand, making $120.00 a year.

Q. Well then wasn't a meter put on before this matter was settled? To get what you were using?; didn't the company put a meter on to see?

A. The company put a meter on, that is a fact.

Q. And the new rate was put on?

A. On the result of the meter?

Q. Yes.

A. No sir, the new rate was not made for two years, until 1887, the latter part of 1887.

Q. Well, I am now speaking about 1887; the time you had this trouble with the company, when this dispute arose and this suit was instituted, didn't they put a meter on your place to see how much water you were taking, and make the rate on what they ascertained that to be?

A. Well, I don't know about making the rate on what they ascertained that to be at all; they did have a meter in there, and had a record of that meter, but when the settlement came I don't think anything was said of the meter record at all.

Q. The meter record was put on there by the company to ascertain how much you used wasn't it?

A. I presume so, yes.

Q. The difference and the dispute between you being as to what you did use, you believing the company assessed your father

544 more water than you used, and the rate was made for you by the company after that time, on that basis?

A. That was made some time after that?
Q. What?
A. That was made some time after that. My recollection is now that that letter of acceptance of the offer was received from Mr. Gardner on the morning that the suit was to go to trial.

By Mr. FORMAN:

Q. You had made that test then some time before?
A. Test with the meter?
Q. Yes.
A. I don't recollect when that was at all; it was I think, after the institution of the suit, or after the injunction was gotten.

Counsel for plaintiff offer in evidence the receipts produced by the witness.

W. H. LITTMAN, Esq., sworn for plaintiff.

By Mr. FORMAN:

Q. What is your occupation?
A. Blacksmith shop.
Q. Where?
A. Rampart street, 342.
Q. How many forgers have you?
A. I have got four.
Q. How many fires?
A. Two.
Q. Do you use the water of the water works Co.?
A. Yes sir.
Q. About how long?
A. Thirteen years—twelve to thirteen years.
Q. What did you pay the first year?
A. How much it cost?
Q. Yes.
A. $14.00.
Q. How much afterwards?
A. I got one brought upstairs.
Q. How much did you pay last year?
A. $15.00 I paid last year.
Q. You have been paying fifteen dollars all the time?
A. All the time, yes sir; once I tried to get it for $12.00 and they would not give it to me; but it was all the time $15.00.
545 Q. You mean to say you tried to get it for $12.00 and they wouldn't give it to you?
A. Yes sir. I paid $15.00 all the time.
Q. You yourself, use the water?
A. I got it only for the family.
Q. Did they ever shut you off?
A. It was muddy most all the time; it was not clean that water.

No cross-examination.

Capt. WATTINGLY, Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. You are connected with the fire department?
A. Yes sir.
Q. How long?
A. Since its organization 1891—31st. December 1891.
Q. What engine or company are you attached to?
A. Engine No. 19.
Q. Can you tell us of any fires previous to the 22nd, of January 1899 which you have attended, at which there was any scarcity of water?
A. Previous to 1899.
Q. Previous to the 22nd of January?
A. Yes, I can remember one.
Q. Well sir.
A. That was right near St. Charles street. It was on Hampson between Burdette & Adams.
Q. What was the matter?
A. The plug at the corner of Burdette & St. Charles refused to give water to one steamer there.
Q. Didn't have enough water in the pipe for one steamer?
A. No sir, we had two steamers attached, one on Adams street and one on Burdette. We had to shut the engine off on Burdette street, and leave the one on Adams go ahead. There wasn't enough water to supply both engines.
Q. Do you know of any tests that have been made with the engine of the pressure in the pipes?
546 A. No sir. There has been tests made, but I was not there when they did test them.
Q. You haven't got the record?
A. No sir. It was a test made—there is a test made whenever we go to a plug and work at a fire.
Q. Who makes those tests?
A. The assistant engineer.
Q. What is his name?
A. Albert Arbo.
Q. Do you know George Weinstein?
A. Yes sir.
Q. What does he do?
A. He is lieutenant of engine No. 25, at present. He used to be in 19.
Q. He was in 19 in June 1898?
A. Yes sir.
Q. Were you in 19 in June 1898?
A. No sir, I was away from there on a leave of absence.
Q. Where were you on June 1898?
A. I was away from the city at that time on a leave of absence.
Q. What mains have you in that part of town?
A. Have only one main, and that is on St. Charles street, and the

plugs extend as far as Carrollton avenue. And at Carrollton avenue and Poplar street that is the only plug facility that we have there.

Q. Are there plenty of houses up there?

A. Yes sir.

Q. Reaching clear up to the protection levee?

A. Yes sir. The town is getting pretty thickly settled up there now; we have to depend upon what little wells we have around there at times. There is a few wells around the district.

Q. By wells you don't mean fire-wells?

A. No sir. Well, they are fire-wells, but not for water from the water main, they are from seepage water.

Cross-examination by Mr. BECKWITH:

Q. Will you tell us exactly where the plug was on the corner of what street, or in the middle of what block and street it was, that you say you attached 19 to a hydrant and did not get water?

A. At the corner of Burdette & St. Charles.

Q. How far is Burdette from St. Charles—I mean the hydrant on St. Charles?

A. It is right on St. Charles St.

547 Q. At what time was this? Give us the date.

A. It was on the 30th day of August 1895.

Q. 1895?

A. Yes sir.

Q. Do you know when the main was extended up to Carrollton?

A. No sir, I don't know when it was done.

Q. It was after that date wasn't it?

A. That the main was laid?

Q. Yes, it was after the date of the fire was carried up St. Charles street?

A. No sir, it could not have been, because we had no water works up there at that time at all.

Q. I ask you if it was not after the fire that they carried the St. Charles main up to Carrollton?

A. No sir, I say it could not have been. If it had been so, we would not have been able to work from that plug, because we had no water mains up there.

Q. Where is Burdette street?

A. Burdette street is situated about six squares below Broadway.

Q. How near Carrollton?

A. It is right in Carrollton.

By Mr. FORMAN:

Q. It is three or four squares this side of Carrollton avenue?

A. Yes sir, there is a Short street, then comes Fern, and then Burdette.

By Mr. BECKWITH:

Q. What time of day or night was it?

A. About half past eleven in the day.

Q. They were flushing gutters around there at that time, weren't they?
A. I couldn't see any—I didn't see any I mean to say.
Q. What engine got water enough?
(No answer.)
Q. Yes, one engine got water?
A. Yes.
Q. You mean by saying that there was no water there, that the pipes would not deliver for two engines?
A. That's what I mean to say sir; that by working both engines you could not get a sufficient supply for two, and we had to stop one engine.

Q. Was there any hydrant anywhere near there—any
548 other hydrant, or any other main?

A. No sir. There is not but one main up there. And all the hydrants are on the street main right up St. Charles street.
Q. This was a double hydrant wasn't it?
A. Yes sir, a double hydrant.
Q. You both hooked on to the same hydrant and with different engines?
A. Yes sir. They took the one corner of Adams & St. Charles and I took Burdette & St. Charles. They were the furthest down this way, and they got all the water and we didn't get any. They were different hydrants.

W. J. KANE, Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. You are a blacksmith I believe?
A. Yes sir.
Q. You use the water of the water works company?
A. Yes sir, I have a hydrant.
Q. How many fires or forges have you?
A. I have two.
Q. How much a year do you pay for your water?
A. $15.00 I think.
Q. What?
A. Fifteen or $16.00.
Q. Have you got your receipts?
A. No sir, I can't find them; I looked for them.
Q. Didn't you just tell me out there, that you paid $12.00?
A. I think I paid $12.00; twelve, fifteen or sixteen, I am not positive; but I am sure that it is nearer sixteen that anything else. How I tell that is, this: I do the horseshoeing for the water works Co., one horse, and I do that shoeing for $1.00 a month, and the last time I paid my bill I got a couple of dollars in cash, and liquidated my indebtedness to the company.
Q. Didn't you tell this man here that you paid $12.00?
A. I don't know what I have told him.
Q. You don't know what you have told him?
A. No.

Q. But you did tell him, half an hour ago you paid $12.00.

A. No, I told him I didn't know exactly what I paid. I
549 said it was nearer to sixteen than twelve. This gentleman chipped in, and said, that I told him that I paid $12.00. I don't know whether I did or not.

Q. We will find out?

A. It is immaterial whether you find out or not. I give you the figures to the best of my knowledge and belief.

Q. Do the Toilet Supply Co. keep their wagons there too?

A. No sir.

Q. They do not?

A. No sir; I keep a surrey and a horse there.

Q. You keep a surrey and a horse?

A. Yes sir.

Q. What else do you keep?

A. Well, sometimes possibly a horse is brought into the shop with a nail in his foot, and it is necessary for him to stay there for a day or two, or night or so; keep him there.

Q. When did the Toilet Supply Company take their wagons away?

A. A couple of years ago, three or four years ago.

Q. How much did you pay when they were there?

A. I can't remember.

Q. You never got any receipts from them did you?

A. Oh yes I did. But I had a little gasoline stove in my office, and it exploded, and it burned up a whole lot of stuff, and I think that my water rate is pretty near due by this time; I haven't got but very little left yet.

Q. What is the number of your place?

A. Well, I don't know the number; it is right on the corner of Tulane & Liberty.

Q. Which side of Tulane?

A. It is on the uptown side of Tulane.

Q. Which side of Liberty?

A. On the river side of Liberty.

Q. How long have you been there?

A. About eight years.

Q. And you don't know the number of your house?

A. No.

Q. Did you ever pay any more than you are paying now?

A. Not that I know of; I ain't ambitious to pay a lot, I'll tell you that.

550 ARMAND PREAU, Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. You kept a saloon at old number 217 Carondelet street?

A. 215 Carondelet.

Q. You use the water of the water works Co.?

A. Yes sir.

Q. Previous to the year 1899, what have you been paying?
A. I have been paying for the last three years $50.00 a year.
Q. What are your facilities?
A. We have two washstands and one urinal.

Cross-examination by Mr. BECKWITH:

Q. You keep a saloon and bar-room?
A. Yes sir.
Q. About what length of counter have you got?
A. About twenty-five feet.
Q. You have got a filter there too, haven't you?
A. Yes sir.
Q. Your urinal is one of the perforated-pipe kind?
A. Yes sir.

LOUIS MARTIN Esq., sworn for plaintiff.

Direct examination by Mr. FORMAN:

Q. You keep a saloon and bar?
A. Yes sir.
Q. Where?
A. 130 Royal street.
Q. Did you use the water of the water works Co., previous to 1899?
A. Yes sir; 1898 was the first year.
Q. How much did you pay in 1898?
A. I was paying, I think it was $40.00.
Q. What facilities did you have?
A. At that time I only had a urinal and one faucet.
Q. Just one urinal?
A. Yes sir.
Q. Have you another place where you use the water?
A. Well, I pulled out of it. I was only a partner there; it was on Gravier street.
Q. You were a partner?
A. Yes sir.
Q. In 1897 and 1898, did you use the water there?
A. No, not on Gravier street.
Q. You didn't use the water?
A. No sir.

551 Cross-examination by Mr. BECKWITH:

Q. Do you keep a bar-room?
A. Yes sir.
Q. You had a faucet besides the urinal faucet last year?
A. Last year I only had one faucet and the urinal.
Q. Your faucet was for the use of the bar and the opening of the urinal?
A. Yes sir.

Q. What sort of a urinal was that; perforated pipe or basin?
A. Perforated pipe.
Q. Running all the time?
A. Yes sir.

J. H. STRAUCH, Esq., sworn for plaintiff.

By Mr. FORMAN:

Q. You belong to the fire department?
A. Yes sir.
Q. How long?
A. Since 1886.
Q. What engine?
A. I am in 23's now, but I was thirteen year salmost in 1's house, and the last seven years I am in twenty-three's house.
Q. Previous to the 22nd of January 1899, did you ever attend any fires at which there was a scarcity of water?
A. Very often, but I never kept the day or date of them.
Q. Can you tell us about where they were situated?, or something about them?
A. Yes, sir, there was a fire there about three years ago, the J. C. Morris fire, and a cork factory fire, that was about three years ago; there was a scarcity of water there, and we had to go away from a plug there, and take in a gutter.
Q. Any others?
A. There were others, but I never kept the day and date of them.
Q. Were you at the Ninth Street Market fire.
A. The fire from Third to Ninth? No sir. I was working at the cotton fire that day; there were two fires at one time.
Q. Were you at the fire where the People's theatre now is?
A. Yes sir, we had a scarcity of water there; we had the plug in the middle of the block between 4th and Washington, and when the other engines opened the well at the corner, we got nothing.

552 Q. Well now, can you recall any others?
A. No sir, I can't just think of them.

Q. Did you ever make any tests of the plugs with your engine to ascertain what the pressure was?
A. No sir.
Q. What engine were you with in June 1898?
A. In June 1898, I was with No. 1.

Cross-examination by Mr. BECKWITH:

Q. Do you mean to be understood to say that at the cork factory fire there was a want of water in the locality, or just a want of water on the plug that you had hooked onto?
A. There was water this way; the plug, we opened it, and it ran dry, and we had to go away from the plug and take the engine down to the corner and take the gutter.

Q. Both of the gutters were full of water, running back to the swamp like a mill tail weren't they?

A. No; we have to go to the plug nearest the fire, and I drove myself that night and took the plug, and after starting to work we had to go away from it and take the gutter.

Q. Isn't it true that after your engine companies now, there is a rivalry as to which engine shall get the first water on the fire, and you rush to the fire without keys and without gaskets, and hook onto the first plug you come to?

A. Without what?

Q. Without gaskets. I have seen frequently no gaskets?

A. No, we always put them on.

Q. I have seen them a hundred times without them. Your idea is to see which engine can get there first and get water on the fire, and you hook onto the first plug you come to?

A. You get as near the fire as you can.

Q. Who looks after the opening of the fire-wells; whose business is it?

A. Either the engineer or stoker; sometimes the driver, just whatever is convenient.

Q. There are two large wells in the vicinity of the Morris and cork factory building, that would affect both of those streets;
553 why weren't they opened at once?

A. They filled both of the streets, yes, but as I say the plug that we took——

Q. Whose business is it, under this pay department, to carry the keys and open the well?

A. We carry the key on the engine.

Q. To the wells?

A. To the wells; every engine has got a key, and the engineer or stoker sometimes the driver, either one, whichever is convenient, will take the key and open the well—the first one, that gets there.

Q. Don't you frequently lose the key, and get to a fire without it?

A. No sir, they are always strapped.

Q. Don't you sometimes find the gasket on your suction hose gone?

A. Very seldom, because we always carry a few extras.

Q. This is a very well ordered engine then, ain't it? When you got to the gutter there was water enough there wasn't they?

A. Yes sir, after we got to the gutter there was plenty water.

Q. Why do you say there was a scarcity of water at that fire, when million- of gallons ran away to the swamp?

A. When we take a plug and no water comes out of it, there is a scarcity of water, and if you have to move thirty or forty feet away, and change your position there is a delay in the matter.

Q. Three or four of you hooked onto a four-inch main, and with maybe a notion of water, within forty feet you say there is scarcity of water at a fire; is that your opinion?

A. No sir, the plug I am speaking of, Mr. Gardner was standing at himself that same night.

Q. You answered that there was a scarcity of water at the fire?

A. Yes, I mean there was a scarcity of water.
Q. You mean there was a scarcity at that one plug?
A. Yes sir.
Q. And at the cork factory fire?
A. We had a well at Thoupitoulas & Poydras, and I got
554 the engine and went out to it.
Q. There is a well at Tchoupitoulas & Fulton, with two six-inch mains; what was done with that?
A. They opened that, and it came down in the gutter. But you were speaking of the well at Tchoupitoulas & Poydras, that we put our suction down in.

By Mr. FORMAN:

Q. What was the matter with the one you put your suction down in?
A. It was empty; that is, there wasn't enough for two engines to keep working, and we were closer to the well, and had our suction down, and naturally as soon as it came too low, they would have to stop, and we kept a working, but two couldn't work at the same time. Since that, that well is removed, because there is another main into it now, but this is speaking of a year or two or three years ago.

By Mr. BECKWITH:

Q. At the same time the two of you were trying to get water out of that well, wasn't the water running back into the swamp from the Fulton Street well?
A. Not yet then.
Q. You people were negligent about opening it?
A. If you go down and open a well two or three squares away, it takes considerable time for that water to come, and when it first comes you can't use it, you have to wait and let the trash get off, and Poydras street, why there is always hay and salt meat and everything like that, which makes water bad.
Q. That ought to make you people prompt to open them?
A. They do, they always open them.

By Mr. FORMAN:

Q. You wanted to get water out of a plug, instead of out of a gutter?
A. Well, naturally; yes, certainly. We had to protect the engine.
Q. That is your idea that that is the place to get it out of,
555 the plug?
A. Yes, that is naturally where you look for it.
Q. That is what it is put there for?
A. Yes, that's what it is put there for.

556 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony for plaintiff in above entitled and numbered cause, taken in open court, this 20th day of November, A. D. 1899, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLoughlin, and C. C. Fredericks, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and E. Howard McCaleb. Branch K. Miller, Esq. for Board of Liquidation.

E. OFFNER, sworn on behalf of plaintiffs, deposes and says—

Direct examination by Mr. FORMAN:

Q. Where is your place of business?
A. 908 Canal street.
Q. You keep a crockery store?
A. Yes sir.
Q. How long have you been in business in New Orleans?
A. About thirty-five years.
Q. How long have you been using the water of the New Orleans Water Works Company—hydrant water?
A. Twenty-five years, I guess.
Q. You have a meter?
A. No sir.

557 Q. What are your facilities at your place of business—how many openings have you?
A. We have two faucets, one downstairs and one upstairs.
Q. How much do you pay the company?
A. Twenty-five dollars.
Q. How long have you been paying $25.00; has it been twenty-five dollars all along?
A. Yes sir.
Q. Neither mor-, nor less, all the time?
A. Same price.
Q. Have you got your receipts?
A. Yes.
Q. Please produce them.
A. Witness does so and says—That's all I could find.
Q. What is the size of your house?
A. Two stories, sir, two stories and attic.
Q. How many rooms?
A. Six rooms, I think, or seven rooms.
Q. What are your water facilities there?
A. We use one in the kitchen, in the sink; we have one in the bath, and we have one in the—we use a range there——

Q. What rates have you been paying there.
A. I think we are paying now twenty-seven dollars.
Q. Have you always paid $27., or has it varied?
A. No sir, we used to pay only $20.00, but then we had no bath-room at that time; there is a water-closet attachment there too.
Q. There is a water-closet attachment?
A. There is one now, since we paid $20.00—I forgot to mention, there is also a hydrant there.
Q. Sir?
A. There is a hydrant in the yard.
558 Q. You had a hydrant in the yard all along, didn't you?
A. That was in the early part, yes sir.
Q. What is the size of the yard?
A. A small yard, I guess about twenty feet square.
Q. Are those all the receipts you could find?
A. All I could find, yes sir.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence, twelve receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. In your Canal Street store how many employees, or attendants have you there, in business—including servants?
A. About ten.
Q. How many water-closets?
A. Two.
Q. How many urinals?
A. One.
Q. Is that a bowl, or a perforated tube?
A. Flowing.
Q. How many wash-basins have you?
A. Two.
Q. Have you any others that you remember?
A. No sir, not that I remember.
Q. As to your house, is it on a corner?
A. No, sir.
Q. How many wash-basins there?
A. None.
Q. How many water-closets?
A. One.
Q. Any yard hydrant?
A. One.
Q. Any sinks?
A. One.
559 Q. Hot-water for the bath connection?
A. One, there is a range.
Q. That supplies hot water for the bath.
A. Yes sir.
Q. Do you remember any other?

A. No sir, I don't think of any—one in the sink—there was a faucet in the kitchen in the sink.
Q. Where is the yard hydrant located, in the front?
A. In the back, in the yard.
Q. What?
A. In the yard, back in the yard.
Q. Is there a hose connection on it.
A. We have a hose; I don't think we use it; we have a hose there.
Q. You have another for watering the streets, haven't you?
A. I don't think we do; I don't know; I never seen them use it; they might use it in the summer time, though, when I am away; they may use it, I don't know.
Q. What?
A. They might use it, I don't know; I never thought about that.
Q. Where is your house situated?
A. St. Charles avenue.
Q. What part?
A. Between Terpsichore and Euterpe.
Q. You remember the number?
A. 1618.
Q. Present number, or old number?
A. Present number, 1618.
Q. The old number was what?
A. The old number, I don't remember now.

By Mr. FORMAN:

Q. Which one?
A. The house number.
560 Q. 414?
A. 414, that is right.

A. SEAMEL, sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Dyer and cleaner.
Q. Have you been using the water of the water works company?
A. Yes sir.
Q. For how long?
A. For about 14 or 15 years.
Q. Do you have a meter?
A. No sir.
Q. What is the extent of your establishment?
A. Well, I am only running a small business, now, sir.
Q. Well, what do you call small?
A. Have one faucet.
Q. Only one faucet at the present time?
A. Yes sir.
Q. How much have you been paying?
A. I have been paying $15. for the last two years.

Q. And previous to that?

A. Before that I paid, $50.00, when I was downtown, I was not located in the same place I am now.

Q. When you paid $50.00 what facilities did you have for water?

A. Well, I had one faucet for family use and about five faucets for my business, all on the ground floor.

Q. Have you any receipts with you?

A. Yes sir, (witness produces receipts.) I have two of the recent ones and two of the old ones, that is all I could find of the old ones, two of them.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence three of the receipts produced by the witness.

561 Cross-examination by Judge BECKWITH:

Q. How long have you been at 1410 Canal street?

A. Two years, sir.

Q. You are carrying on the dy-ing business there?

A. Yes sir.

Q. What articles do you dye?

A. Wearing apparel, sir, ladies and gents, both.

Q. Requires a good deal of water, don't it?

A. Sir?

Q. Requires a good deal of water, don't it?

A. Well, it does, yes.

Q. How many families in that house?

A. Nothing but my family on the ground floor, sir, the upper portion of the house is occupied by another family and they pay their water.

Q. How many workmen?

A. I have four, sir.

Q. Will you look at the paper I now hand you and state if that is your signature?

A. That is.

Q. Where was your other place?

A. It is located at # 264 St. Charles street, corner of Union.

Q. What business did you carry on there?

A. Same business.

Q. How many dye vats did you have?

A. I had four.

Q. What articles did you dye?

A. Just as I mentioned before, wearing apparel of every description.

Q. Doing a larger business than you are now?

A. Yes sir.

Q. And how many horses, did you have any horses?

A. No sir, never had horses.

562 Q. Did your family live in that house?

A. Yes sir.

Q. How many families were there in the same house.

A. There was but my family at the time, sir.
Q. How many rooms in the house?
A. Well, I had counting store and dining-room and the upper portion I had seven rooms, kitchen included.
Q. How many workmen, servants and employees, did you have in that establishment?
A. I had about four or five, sir.

THEODORE DENNERY, sworn for plaintiff, deposes and says.

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Merchant.
Q. Where?
A. Custom-house street.
Q. Do you — the water of the hydrant of the water works company?
A. Yes sir.
Q. For how long have you used it?
A. For the last 25 years.
Q. What is the number of openings—facilities?
A. One.
Q. One hydrant?
A. Yes sir.
Q. How much have you been paying?
A. Twelve dollars.
Q. You also have water at your house?
A. Yes sir.
Q. What openings have you there?
A. Five and the closet—five altogether.
Q. How much have you paid there?
A. Twenty-eight dollars.
563 Q. Where do you live?
A. 2337 Magazine street.
Q. How long have you been paying $28.00 there?
A. For the last six years.
Q. What have you at 1023 Race street?
A. A stable.
Q. Have water there also?
A. Yes sir.
Q. And what openings, or facilities have you there?
A. One faucet.
Q. What do you pay there?
A. Eighteen or twenty dollars, I believe.
Q. Sir?
A. Eighteen dollars.
Q. How long have you been paying that?
A. For the last twenty years.
Q. You have only one hydrant at your stable, 1023 Race street?
A. Yes sir.

Q. You have one at your place of business 523 Custom-house St.?
A. Yes sir.
Q. And two hydrants at your house?
A. One.
Q. Only one hydrant at your house?
A. Yes sir.
Q. Do your water works run into a range or bath?
A. Yes sir.
Q. A sink?
A. Sink.
Q. Do you have any wash-basins with the river water running into them?
A. Yes sir.
Q. How many have you, one or two?
A. Wash-basins—no, I have none at all.
564 Q. Sir?
A. I have no wash-basins.
Q. You have no wash-basins?
A. No sir.
Q. You have at your house, one hydrant?
A. One hydrant.
Q. The water runs into your range?
A. Yes sir.
Q. For hot water—and the bath?
A. Yes sir, both.
Q. And the sink?
A. And the sink.
Q. You have a kitchen sink to wash dishes, and the like?
A. Yes sir.

Counsel for plaintiff offers, introduces and asks to be filed in evidence three receipts produced by the witness.

Cross-examination by Judge BECKWITH:

Q. At your stable how many animals and wagons have you?
A. Five stock.
Q. Horses or mules?
A. Mules and horses.
Q. How many wagons?
A. Four.
Q. What is your business—at your place of business what kind of a store do you keep?
A. Peel store.
Q. Feed store?
A. Bakers' supplies.
Q. What is that for, flour?
A. All kinds of tools they need.
Q. Any family living in the place?
A. No sir.

Q. Do you keep any horses or animals there?
565 A. No sir.
Q. Have no openings except the hydrant?
A. That is all.
Q. Where is that, in the store, or in the yard?
A. The yard.
Q. Now, are you sure you have given us all the openings at your dwelling-house?
A. Yes sir, five, and the water-closet is six.
Q. How many baths?
A. One.
Q. That is connected with the hot water back?
A. Yes sir.
Q. How many rooms in your house?
A. Five bed-rooms——
Q. How many other rooms?
A. About eight—eight, that is all.
Q. Keep any carriage or horses there?
A. No sir.

CHARLES MARSHALL, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are general superintendent, I believe sir, of the Louisville and Nashville railroad?
A. Division superintendent.
Q. That is, of the division that runs into New Orleans?
A. Yes sir.
Q. Does your road use the water of the New Orleans Water Works Company?
A. Yes sir.
Q. You have a meter?
A. What is that?
Q. Do you have a meter?
A. Do not at present, no.
Q. Have you ever had a meter?
566 A. Yes sir.
Q. When you had a meter what rate, per thousand gallons did you pay?
A. I figured it at sixteen cents.
Q. Sixteen cents a thousand?
A. That is about what it was.
Q. Have you any receipts with you?
A. Have none.
Q. What facilities, what openings do you have now, or are you using?
A. We have two water cranes on Elysian Fields street, and there are closets, lavatories, etc. at the Canal Street depot.
Q. Is that all? How many closets and how many lavatories?
A. The water company bills at Canal street six water-closets, two

urinals, one wash-basin and a hydrant; that bill has been running that way for a long time, but as a matter of fact there were some differences.

Q. What were the differences; what is the matter of fact? It is the matter of fact that I want to get at.

A. There are at present two wash-basins.

By Mr. KRUTTSCHNITT:

Q. Let us know whether "at present" means the 23rd of last January?

By Mr. FORMAN:

Q. Previous to the 23rd of January, 1899, what were the facilities, as a matter of fact?

A. Six water-closets, three urinals, one of which was not supplied with water but for the two urinals; two wash-basins, eleven faucets and no hydrant, unless one of the faucets is called a hydrant.

Q. How much do you pay?

A. Seventy-five dollars a year for that service.

Q. For the Canal Street depot?

A. Yes sir.

Q. How much do you pay for the water cranes?

A. Thirty-one dollars per month.

567 Q. For each, or for both?

A. For both.

Q. You have no meter at either place now?

A. No, not now.

Q. You had none in 1898?

A. Had a meter in 1898, at the Elysian Fields Street water cranes up till some time this last summer, or January 1899.

Q. Then you were paying 16 cents a thousand gallons.

A. I figured it at that.

Q. How did you figure it at that, Mr. Marshall; was that the rate at which your bill was made out?

A. The rate was made according to the schedule of the company; I have a copy in my book, if you desire it, and I figured the consumption of water against the sum total paid to the water works, though I don't pretend to say that my figures are exact; the consumption of water varies throughout the year, according to the season, the number of trains using.

Q. Where are your receipts from the water works Co.?

A. They are in Louisville.

Q. You have never had a meter at the Canal Street station, then?

A. Never, no.

Cross-examination by Judge BECKWITH:

Q. You speak of water cranes; they are those stand-pipes, with a rotary head, are they not?

A. And elevated pipe with a fall, which is turned to discharge water into the tender of a locomotive.

Q. Is there any other use made of it, other than to water locomotives?

A. That is the only use.

Q. Now, the urinals in the Canal Street depot, are they bowl urinals or the perforated tubes.

A. What is that, Mr. Beckwith?

Q. I say the urinals you have at the Canal Street station, are they of the bowl character, or perforated tubes?

568 A. Both.

Q. What length of perforated tube have you there?

A. What length?

Q. Yes.

A. I should judge about 9 or ten feet, very large one—one of them.

Q. They are running constantly?

A. Constantly, yes sir.

A. ZODIAG, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?

A. Shoe dealer, retail.

Q. Where?

A. At present 132 St. Charles street.

Q. Have you used the water of the water works?

A. Not at the present place of business.

Q. Have you, in the past twenty odd years?

A. Have I used any?

Q. Yes.

A. Yes sir, use it at my residence and in the store that I occupied previous to this year.

Q. Where was the store that you occupied previous to this year?

A. 130 St. Charles street.

Q. What openings, or facilities for water did you have there?

A. One closet and faucet.—Washstand and closet.

Q. How much did you pay a year?

A. Paid twelve dollars—no fifteen—I beg pardon, fifteen dollars.

Q. What do you pay at your house?

A. Well, I have not got any receipts, but I have a memorandum from my check book—in 1896 I paid for use of closet $12.00—at my residence.

Q. Did you pay any other bills?

A. Not that particular year.

569 Q. Well, for any other time?

A. Yes sir, 1897 I paid for some closets—this year.

Q. I don't want to know anything about this year.

A. You don't want to know anything about this year?

Q. No. Did you pay any bills at any other time?

A. Well, in 1898 I paid seven dollars for a closet at my residence.

Q. Did you pay any other bills at any other time?

A. No, except this year.

Cross-examination by Judge BECKWITH:

Q. That was a gents' furnishing establishment that you kept at 130 St. Charles street, wasn't it?

A. How's that?

Q. It was a gents' furnishing-goods establishment——

A. No sir, show store. 128 is a gents' furnishing goods; or in other words there is a gents' furnishing goods there since October 1st.

Q. You have no interest in 130 St. Charles any more, have you?

A. No sir.

Q. What business did you carry on at 130 St. Charles street?

A. Shoe business, retail shoe business.

Q. How many persons including servants occupied the place?

A. At my residence?

Q. No, St. Charles street?

A. Well, I had sometimes two clerks; sometimes two clerks and a boy besides myself—from three to four.

Q. How many water-closets?

A. One.

Q. Wash-basin connection?

A. One—that is what I said, faucet and closet—basin and closet.

Q. Now, where is your house situated?

A. This year?

Q. No, prior, the one you have testified about.

A. That was at 1715 Jackson avenue.

Q. How long have you had water supplied there?

570 A. I have just had a closet there; that is all I have used.

Q. Did you have a yard hydrant?

A. No sir, had nothing but the closet.

Q. No urinal?

A. No sir.

Q. Did you have any sink?

A. Sink, yes sir, but they never use any of the city water; we have cistern water for everything except the closet.

Q. How many places in your house, where you could get water from the hydrant, except the water-closet.

A. Well, there is a sink, washstand and bath-room.

By Mr. FORMAN:

Q. And the hydrant connected with all those?

A. The city water?

Q. Yes.

A. No sir, if they are we never use them, because there is no faucet there.

Q. You never use them because there are no faucets there?

A. In fact we had them taken out, and whether it was connected with them or not, our water was supplied by the cistern, except to the closet.

Q. They are all supplied by the cistern?

A. Yes sir, all supplied by the cistern—except the water-closet.
Q. The faucets are taken out, and the pipes so far as connection with the water works company is concerned, are closed, as I understand.
A. They were taken out because we had a hydrant in the yard—and th-t was taken out——

By Judge BECKWITH:

Q. What did you do in time of drouth when you had no water in your cistern?
A. Our cistern never got so low.
Q. What cistern capacity have you got?
A. I couldn't say sir, it is a double cistern.

571 WM. M. RAILEY, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You have been engaged in the insurance business for some years in New Orleans?
A. Yes sir.
Q. Did you as a member of the committee on the water supply of New Orleans Fire Underwriters' Association, in the early part of the year 1890, investigate the condition of the water supply for the purpose of extinguishing fires?
A. I did.
Q. Did you make a report on the subject as to the result of your investigations?
A. Yes sir.
Q. Is this pamphlet which I hold in my hand a printed copy of that report?
A. Yes sir.
Q. Was the water works company represented in that investigation?
A. Yes sir, part of the time, whenever they desired to be.
Q. They were notified of it?
A. Yes sir.
Q. Does that report contain the result of your investigations?
A. Yes sir.
Q. Are the facts stated in reference to that investigation on that report true, or were they true at that time?
A. They were, sir.

The report referred to is offered, introduced and asked to be filed in evidence by plaintiff's counsel.

Cross-examination by Judge BECKWITH:

Q. Was this report, or the supposed facts stated here, arrived at by the examination of sworn witnesses?
A. No sir.

Q. Are you, yourself, as a member of the committee personally cognizant of a single fact so accepted, or report?

A. Every fact stated by me, there sir, I was personally cognizant of.

572 Q. How did you personally know where the mains and the cross-mains were?

A. I went first to the office of the N. O. Water Works Company and by the courtesy of the engineer I was furnished with a map showing where those mains were.

Q. Then you took that fact from that map?

A. Yes sir.

Q. There are matters stated here as facts that would have required personal knowledge not be obtained from maps or charts.

A. That may be, I cannot answer that offhand without reading the whole report, or some pages of it. I furnished the water works company with a copy of that report when it was made—I think I gave a copy to Mr. Beckwith.

Counsel for defendant asks time to look at the report referred to by witness, and the witness is withdrawn.

W. P. DODSWORTH, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Counsel for defendant states that these witnesses are witness on the same subject and they make the same request as to all of these witnesses on this particular subject as made with reference to testimony of Mr. Railey.

By the COURT: We might as well postpone the inquiry until two o'clock.

E. G. SCHLIEDER, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are president of the American Brewing Co.?

A. Yes sir.

Q. Does your company use the water of the New Orleans Water Works Company?

A. Yes sir.

Q. Do you have a meter?

A. Not now.

573 Q. When did you have a meter?

A. Well, I think it was two or three years since.

Q. Can't you come any nearer than that?

A. Well I can find out. Go to the books and see, I think it is not longer than three years ago.

Q. Have you got any receipts with you?

A. The secretary is here, a witness also; he has them.

Q. Sir.

A. The secretary has the receipts with him; he is in cou-t.

Q. Just call him up, we might as well, while you are here.

The secretary is called up and produces the receipts.

Q. When did you quit having a meter?

A. I just informed you I didn't remember the date; I don't remember how many years ago it was—the receipts will speak for themselves.

Q. I see here among the receipts you have just handed me, one June 30th, 1891—one dated October 31st, 1891, another October 31st, 1891; all at the rate of 15 cents per thousand gallons, and on December 31st, 1891 a receipt for $120, as per agreement. These receipts for January 30th, 1892 are at the rate of 15 cents per thousand gallons—did you just do without a meter for one month, or what was that?

A. I don't remember.

Q. Have you no explanation how it was that you were getting water——

A. It may have been that the meter got out of order—broke, or something.

Q. You were getting water in October, 1891, by the thousand gallons for the month of December—from the 1st of October to December 31st you were getting at a round rate——

A. 1891?

Q. 1891, at a flat rate, as we call it and then again January 30th 15 cents a thousand gallons.

A. The only way I can account for that is the meter was broken, or out of order.

Q. When did you dispense with the meter?

574 A. The receipts will show, I don't remember the date.

Q. How does the quantity of water consumed, since you dispensed with the meter, compare with the quantity consumed when you were paying by the meter?

A. Well, I guess it is about the same—we have artesian wells.

Q. You have been making about the same average a year?

A. We use artesian wells and from the river, both; in the summer time the artesian water is cooler; we use that to run over the condensers, it takes up more heat cold water does, than warm.

Q. Are those all the receipts you have?

A. I expect so, I instructed the book-keeper to get them all.

Q. When did you commence business there?

A. I think it was in 1891.

Counsel for plaintiff offers, introduces and asks to be filed in evidence thirty-nine receipts produced by witness.

Cross-examination by Judge BECKWITH:

Q. How many artesian wells have you on that place?

A. I think there are two, Judge.

Q. What capacity have you under pump, do you know?

A. No.

Q. Is it considerable?
A. I couldn't answer that question.
Q. How many ice machines have you there?
A. We are running one, but we have three—two reserve machines and one double the capacity of the two—we run only one.
Q. Have the wells capacity enough to furnish refrigerating capacity for the coils?
A. Yes sir.

Dr. JOHN CALLAN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You have been a practising physician in New Orleans, for a number of years?
A. Yes sir.
575 Q. Are you president of the Parish Medical Society?
A. Yes sir.
Q. What can you tell us, sir, of the healthfulness of the unfiltered water furnished by the water works company.

Defendant's counsel make the same objection as heretofore to this class of testimony.
The same ruling is made and bill reserved as in former cases.
Counsel for Board of Liquidation joins in the objection and bill of exceptions.

A. What was the question?
Q. What can you tell us, of the healthfulness of the unfiltered water furnished by the water works company?
Q. Well, in its unfiltered state it is drinkable.
Q. Sir?
A. I say in its unfiltered state it is drinkable; but I don't consider it wholesome.
Q. Do you know whether, or not, when the river is low, and the water is blue, there is any gulf water coming up, or going up the river?
A. I don't know anything about the currents of the river.
Q. Did the Orleans Parish Medical Society ever take any action with regard to the healthfulness of the water supply?
A. Yes sir.

Counsel for plaintiff hands witness document produced by one of the previous witnesses and asks;

Q. Does that paper represent the action that they took?
A. Yes sir.
Q. Is that your signature?
A. Yes sir.

Cross-examination by Judge BECKWITH:

Q. Would you tell us, Doctor, what is the Parish Medical Society—when was it born; what is it made up of?
A. The Parish Medical Society?

576 Q. Yes.

A. I don't remember exactly the year of its existence but it has existed many years here; it is composed of representative physicians of the city.

Q. Is it an incorporated or a voluntary association?

A. It is not incorporated at present; though steps are being taken to incorporate it.

Q. Was it anything more than a voluntary association at the time this paper that your attention has been called to, was made and issued?

A. Nothing more than an organized body.

Q. Well, how was it organized, by common consent?

A. Yes sir.

Q. Does that paper purport to be the action of the entire association, or associated doctors?

A. It was passed at a regular meeting of the body and all were not there.

Q. How many were there?

A. I cannot tell the number right now, but it would be easy enough to find.

Q. There were not more than a dozen, were there?

A. Oh yes.

Q. Was this the action of a committee or the whole body?

A. The report was submitted by a committee and acted on by all the members present at that meeting.

Q. Were you on the committee?

A. No sir, except possibly as *ex officio*, but I don't recollect.

Q. Do you know whether any witnesses were sworn or examined?

A. There were none, no sir.

Q. Well then, the conclusions urged in that paper were no better than the opinions of people who embarked in making it, sustained by their belief, without any sworn proof, is that it?

A. I don't know what means the committee took to inform themselves on this matter.

577 Q. What means did you take?

A. I, individually?

Q. Yes.

A. None.

Q. Wasn't the crowd about as bad off as you?

A. I don't think so, because when committees are delegated to do the work they usually do it.

Q. Well, I understand you to say that there are sources of physical ills, or diseases or troubles in drinking Mississippi River water with sediment in it, do you mean it would cause organic trouble, and, if so, what.

A. Well it would cause acute troubles, bowel troubles and as for long-continued drinking of the unfiltered water, but very few cases have come under my notice, I know it has caused impoverished condition of the blood and organism.

Q. That is you ascribed it to that?

A. I ascribe it to that.

Q. In coming to that conclusion you must have acted, I suppose, on medical knowledge and medical investigation; will you tell us please, chemically, what the Mississippi river carries in suspension.

A. I am not a chemist.

Q. Do you know, as a fact, if it is soluble in water?

A. Soluble in water?

Q. Is any of the solid matter in suspension in the Mississippi river *is* soluble in water.

A. I don't know the chemical constituents of it?

Q. Do you know a single chemical element, or formula of a single combination or sediment in the Mississippi river?

A. I have never seen a formula of it.

Q. Wasn't the balance of your committee about as badly off?

A. I wasn't on that committee.

Q. Were any of them analytical chemists?

578 A. I don't know, sir.

Q. Was any analysis submitted to you to enable you to come to these conclusions in this report?

A. No chemical analysis was submitted to me, no sir.

Q. Now, you concluded in these several cases which you diagnosed—how many were there?

A. Well there were several cases, in fact a good many cases up by the river front, when I was in active practice amongst that class of people, ranging from say the water works, up to Louisiana avenue, little fellows that were continually drinking the water and swimming in the water they got a sallow complexion, got anemic, and in fact they were designated by their chums, etc. as "river swimmers" and when stopped they materially improved.

Q. Well, tell us about this bowel trouble; is it an irritation—an irritation of the mucous, or a mechanical *bar*asion, or from the operation of the sediment in a chemical way, or results that may come when it is being broken up by the gastric juices?

A. It comes from the mechanical irritation, because when filtered it has not the same effect.

Q. How do you know?

A. Well, by know- that when it is in an unfiltered state it will cause bowel troubles and used in a filtered state it does not.

Q. Isn't it true that except for swimming in the river that district of the city which you speak of is wors*t* affected with hydrophobia than any other district; isn't it true that it is the center of the barrel shops and whiskey shops, and a point where there is a great deal of drinking of whiskey?

A. No, I don't think there is any great amount of hydrophobia in that section.

Q. By hydrophobia, I mean a dislike to water.

A. Dislike to water?

Q. Yes, I don't mean rabies.

A. A little fellow swimming in the river, and drinking the water and living on the banks of the river don't show any symp-

579 toms of hydrophobia.

Q. It is rather a rough, tough neighborhood, isn't it?
A. They are a working class of people; they manage to eke out an existence, work very hard.
Q. How do you know they take the water from the river, or whether they take it from the water works?
A. I am speaking of those little fellows that show the symptoms of the swimming.
Q. You think it is bad to drink because it is bad to swim in?
A. No answer.
Q. Don't troubles come to people who change their temperatures suddenly by leaping in a heated condition into a cooler medium, and don't shocks come from it?
A. In some cases.
Q. Don't it come in any case?
A. Not in every case.
Q. Then I may go from a temperature of 60 into a bath of 45, with no shock?
A. Not an unhealthful shock.
Q. It would be unhealthful if I took it every ten or fifteen minutes for a long time, wouldn't it?
A. I think in your present state, yes.
Q. Wouldn't it to those denizens of that district?
A. If they took it every ten or fifteen minutes and kept it up indefinitely the bodily heat would be less and deleterious effects would result.
Q. Isn't it true that serious trouble comes from remaining in water too long, from excessive absorption?
A. Yes, staying in too long would cause a loss of bodily heat.
Q. You don't know how long these people stay in—these boys?
A. No sir.

580 J. F. GARCIA, sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Bar-room.
Q. Where?
A. Tulane avenue and Claiborne.
Q. How long have you been there?
A. Seven years.
Q. Have you been using the water of the New Orleans Water Works Company?
A. Yes sir.
Q. What facilities have you?
A. Three openings.
Q. What rates have you been paying?
A. I don't pay at all.
Q. Sir?
A. I don't pay nothing, the landlady pays.
Q. Who does pay?

A. The landlady, Mrs. Schwann.
Q. What does she pay?
A. I couldn't tell you.
Q. Do you have another place, next door?
A. Yes sir, I pay for the next door.
Q. What facilities do you have at the place that you pay for?
A. One opening.
Q. How much do you pay?
A. $18.00.
Q. What kind of a place is it?
A. I rent it out to some people in the market, Italians, who keep a fruit stand there.
Q. Do they keep it in the house?
A. No, they keep it in the market and live in the house.
Q. They keep a fruit stand in the market and live in the house?
A. Yes sir.

581 Cross-examination by Judge BECKWITH:

Q. Where is your place?
A. My place of business? Corner Tulane and Claiborne.
Q. Now what do you pay for water for?
A. Next door to Claiborne street.
Q. Is it a dwelling-house?
A. It is a little dwelling-house, yes sir.
Q. Any business carried on there besides?
A. No sir.
Q. Where is the hydrant?
A. In the yard, back in the yard.
Q. You do the cooking for the market there, don't you?
A. I cook for the market? Who is cook for the market?
Q. Don't you cook in your house for some stall in the market?
A. No sir, I am no cook, I am a bar-keeper. Next door I rent the house out.
Q. Will you give us the number of the house?
A. 258 Claiborne street.
Q. Is that the present number?
A. Yes sir.
Q. That is where you live?
A. No sir, I live on the corner.
Q. Then you don't keep that house, you rent it and pay the rates yourself?
A. Yes sir.

LOUIS ZENOR, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Do you manage the business of Mr. Hollerbach?
A. Yes sir.
Q. What is his business?
A. Bakery.

Q. In this bakery of Mr. Hollerbach's is the water of the water works company used?

582 A. Yes sir.

Q. You have a meter?

A. Yes sir.

Q. Have you any receipts?

A. I have three on me, I have got a meter since March 1899.

Q. How much do you pay by the meter? How much a thousand gallons?

A. On an average thirty cents, I suppose.

Q. Before you got the meter what facilities did Mr. Hollerbach have?

A. For the water?

Q. Yes, at his residence?

A. One hydrant.

Q. At his residence?

A. That was at the bakery and residence also.

Q. 1231 Dumaine street?

A. No sir, this is a tenement-house.

Q. At 1231 Dumaine street, what facilities for water did he have?

A. One hydrant.

Q. For which he paid twelve dollars?

A. Yes sir, formerly eighteen.

Q. And formerly you paid eighteen?

A. Yes sir.

Q. For the same facilities?

A. Same facilities, same house, yes sir.

Q. At 408 and 410 Villere street, what facilities?

A. One hydrant, only one hydrant.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence the three receipts produced by this witness.

Cross-examination by Mr. BECKWITH:

Q. When was the bill $18. at the Dumaine Street place, what year?

A. It was about, I believe in 1892, 1893, I couldn't find the receipt.

Q. How do you know it was?

A. Because we had to close down, found it too high, and we put in another stand.

583 Q. What was that house occupied as, a boarding-house?

A. No sir, dwelling-house.

Q. How many rooms?

A. I suppose there was about six.

Q. How many families?

A. One.

Q. Now, where is the bakery?

A. No. 408 N. Villere, that is the new number.

Q. Family living there?

A. Yes sir.

Q. How many head of stock, or animals, horses or mules.
A. Three horses.
Q. How many wagons?
A. Three.
Q. How much flour is baked there, now many barrels a day?
A. Average from five to eight barrels.
Q. It was more at one time, wasn't it?
A. It was in the year 1884,—1884, 1886 and 1887.
Q. When did it fall off to five barrels?
A. About three years ago.
Q. You told me hiw many wagons you had, didn't you?
A. Yes sir.
Q. How many?
A. Three.

J. F. HERBERGER, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a member of the city council?
A. I am, sir.
Q. Representing what district?
A. The eleventh representative district.
Q. Eleventh ward?
A. Yes sir.
584 Q. Do you use the water works company water?
A. No sir.
Q. Never have used it?
A. No sir.
Q. Have you anything to do with the taking care of Washington Ave.?
A. Yes sir, I am connected with the board of commissioners for Washington avenue, as a member.
Q. Have you had any occasion to get water from the water works company, in getting that street sprinkled?
A. Well, when the commissioners undertook the keeping of the street we found it became necessary to use water to preserve the street and settle the dust; we applied to the water works Co. and they said the charge would be $1.50 for three hundred feet of roadway; the commissioners, desirous to get along with the work went on and finally protested. The president of the commission later made some arrangements; got some kind of an agreement made with the water works company whereby, I believe, the rate was to be reduced. Now I am not positive whether the final amount settled on has ever been paid, or not, but I -now there was a charge exacted and the commissioners quit using the water but since about five or six months the water works company agreed to let them use some water free of cost.
Q. For the last five or six months?
A. Yes sir.
Q. They charged at first $1.50, for what period of time?

A. Per month.
Q. $1.50 a month for every three hundred feet of roadway?
A. Every *three hundred feet.*
Q. How many feet did you have to sprinkle?
A. It is about four miles long.
Q. Who supplied the money to pay them that?
A. The city of New Orleans, in its budget annually.
Q. How long was that exaction made?
585 A. I think it was six or eight months; the commissioners found out they would not have money enough to pay so much for water, much less care for the road, so they quit using water.
Q. Are there water pipes or plugs along there?
A. As far out as Rampart street.
Q. How far out is Washington avenue improved?
A. To Carrollton avenue; not densely populated—but it is thickly settled out to Claiborne.
Q. Then there are plugs along Washington avenue from the river to Rampart street?
A. Not from the river, no; from Magazine there is a scarcity of plugs in front.
Q. Back of Rampart is there any supply of water for the extinguishment of fire, from the water works company?
A. None whatever.
Q. It is thickly settled, you say from Rampart to Claiborne street——
A. Yes sir.
Q. Then there are houses all the way out——
A. Oh, yes, there is some houses all the way out to Carrollton avenue.

Cross-examination by Mr. BECKWITH:

Q. How did you expect to sprinkle four miles of Washington avenue with hydrants only between Magazine and Claiborne.
A. By a system of carts; that is the way we do it now.
Q. You take the water from the plugs in carts, and then sprinkle it along the road?
A. Yes sir.
Q. None of the sprinkling was done by running the water from the hydrant into the street?
A. Sir?
Q. I say, you did not attempt to wet the street by water thrown from the plugs?
A. Direct from the hydrant?
Q. Yes. And letting it run on the street?
586 A. No sir.
Q. How many sprinkling carts did you have?
A. Two; at one time we were operating one; but the commissioners put up a tank where they pump the water every hour.
Q. Where was that commission created, voluntarily among the people along the street?

A. No sir. It was created by law.
Q. Created by law?
A. By law, by ordinance.
Q. By an ordinance?
A. Yes sir.
Q. Do you remember what ordinance it was, and when it was passed?
A. No sir, I couldn't remember the date, it is of record though.
Q. What are the duties of the commissioners, as prescribed in the ordinance, as near as you can remember?
A. Well, to care for the roadway, to see that it was kept in as good a condition as they can possibly keep it.
Q. Then you don't pave it?
A. No, we repair it with shells, carts go along all day long, and every day, working.
Q. Now, isn't that by contribution?
A. Sir?
Q. Isn't that expense paid by contribution, by people along the road, and aren't they benefited by it.
A. No sir.
Q. Was the contract for keeping that place in repair every advertised or sold?
A. By the commissioners?
Q. Yes.
A. No sir.
Q. Was it advertised by the city council?
A. No sir, bids were asked for the keeping of it; that is the furnishing of teams and sprinkling wagons, ets. that was advertised by the board and given to the lowest bidder.
587 Q. By the board or by the city?
A. By the board.
Q. Was there any advertisement of any contracts for the balance of the expenditures?
A. No sir, the commissioners through their road committee made arrangements over the lake for a supply of shells, which were used daily on the road.
Q. Have you used over five hundred dollars' worth of shells?
A. Oh yes, several thousand dollars' worth
Q. And the money to pay for them came out of the city treasury?
A. Yes sir.
Q. How do you square that with the charter?
A. Sir?
Q. How do you square that with the charter of the city?
A. There was some little difficulty, I think, year before last, and there was an amendment—that is a bill passed by the legislature authorizing the city, I think, to pay over this money.
Q. Was that bill passed before, or after, your dealings with the water works company?

Objected to as irrelevant.

A. I think it was after the creation of the commission; I don't know the exact date, it was the last session of the legislature.

FRANK L. LEVY, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You use the water of the water works company at your residence?
A. Yes sir.
Q. What facilities have you?
A. I suppose I have what is referred to on the receipts which I have brought here.
Q. For the year 1899, but previous to the year 1899 what facilities had you?
A. I have a range, they charge me for the range—it is itemized—
588 for the range, faucet on the gallery, two closets and sink and bath-tub.
Q. Only one bath-tub?
A. Only one bath-tub, sir, and I only use hot water in the bath-tub, no, I correct that, I use both in there.
Q. Are those exactly the facilities that you have?
A. Yes sir.
Q. How much do you pay by the year?
A. Twenty-five dollars.
Q. For how long have you been paying that?
A. Ever since it was installed, I think, with the exception of the first two or three years, when I was charged extra to get the water down the street. These receipts date from 1892, including 1898, I think there is a year missing; I have been paying that uniform rate ever since 1892.
Q. How much were you paying before that?
A. Thirty dollars, I paid for a while; after that the faucet in the yard was taken out.

Plaintiff's counsel offers, introduces and asks to be filed in evidence the receipts produced by the witness.

Cross-examination by Judge BECKWITH:

Q. The old number of your place was 377 or 399?
A. 377, I also own 379 the old number.
Q. You own the next door too, don't you?
A. Yes sir.
Q. You take the water supply for both houses?
A. Yes sir.
Q. Now, 377 is where you live?
A. Yes sir, that is the old number.
Q. How many stories?
A. Two stories.
Q. How many rooms?

A. You mean living rooms, sleeping rooms, and everything in the house?

589 Q. All habitable rooms?

A. Yes sir, four bed-rooms and a bath-room, kitchen, library, parlor, dining-room and butler's pantry.

Q. Servant's room?

A. That is included in the bed-rooms.

By Mr. KRUTTSCHNITT:

Q. That includes the servants' rooms?

A. Yes sir, I have one in the yard but it is not in use, as I have no need for it.

By Mr. FORMAN:

Q. When was the yard hydrant plugged?

A. I can't remember distinctly, I think it was somewheres between the first and third years; I think I guaranteed $30 for three years in order to get the pipes down the street and after I had complied with that guarantee I reduced it by having the yard hydrant plugged.

Q. You were one of the parties who subscribed to make up the ten per cent.?

A. That is it exactly, sir.

Q. To get the main extended through?

A. Yes sir.

Q. And you subscribed thirty dollars, didn't you?

A. Yes sir.

By Judge BECKWITH:

Q. You have one kitchen range?

A. Yes sir.

Q. Kitchen-range connection?

A. Yes sir.

Q. Kitchen-sink connection?

A. Yes sir, that is the point I dispute with the water works Co., the only way I get water to my sink comes through my range, while it is itemized on my bill—I can get no redress at all.

590 Q. Isn't that sink connected with the water works?

A. Only through the range.

Q. Can't you get cold water there in that sink?

A. From my cistern, sir, it is not connected with the range at all.

Q. You have a pantry sink?

A. Same condition exists exactly; hot water from the range, cold water from the cistern.

Q. Do your cisterns ever run dry?

A. Never to the extent of having to resort to river water, except for drinking purposes.

Q. The water-closets——

A. I have two of them, sir.

Q. Urinals?

A. No sir, none.
Q. After you- three years' guarantee was over then the rate became twenty-five dollars, and it has been so ever since?
Q. Ever since, yes sir.
Q. How about the house next door?
A. It has been twenty dollars ever since—I think I subscribed $25 for the next-door place for the first year—I think there has always been a difference of $5.00—but that was reduced to $20.00.
Q. What is that house occupied for?
A. As a residence, always has been.
Q. Do you know how many openings there are there?
A. Yes sir, there is a sink, faucet in the yard, closet and the bath making four openings.
Q. Yard hydrant there?
A. Yes sir.
Q. Garden?
A. A little place about 15 feet, I suppose, or 20, green place in the front yard.
Q. Hose connection?
A. No—there is evidently a connection with it, but I never remember having seen it used, sir.
591 Q. Never used in cleaning the street?
A. No sir.
Q. What is the cistern capacity?
A. I think it is a 2500-gallon cistern, it is what I would call an average-size cistern. I don't remember exactly. That is a cottage, 379 old number.
Q. The number of rooms is eight, isn't it?
A. I don't remember.
Q. One family only occupying it?
A. Yes, sir, there is one family, occasionally there is the natural number of guests that an ordinary family would have visiting it but there is only one family ever occupies it.

H. C. RAMOS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you keep a coffee-house corner of Gravier and Carondelet streets?
A. Yes sir.
Q. What water facilities have you there; water furnished by the water works company, I mean.
A. We have one hydrant and three faucets.
Q. Three faucets?
A. Yes sir.
Q. Making four openings altogether.
A. Yes, sir.
Q. You pay how much there a year?
A. Sixty-five dollars.
Q. You have been paying that all along?

A. Yes sir, since 1887.
Q. Since when?
A. Since 1887.
Q. Did you ever pay any other rate?
A. No sir.
Q. You also have water at your house?
A. Yes sir.

Q. You have one water-closet there?
592 A. Yes sir.
Q. Supplied by the water works Co.?

A. Water at the residence?
Q. Yes, at the residence.
A. No sir, we have a cistern up at the residence; at the bar we have an earth closet, which is removed.
Q. Don't you have the hydrant water at your residence?
A. We have hydrant water but we don't use the hydrant water for the closet; we have the next-door property.
Q. Where is that residence?
A. On Orleans, sir, and Rampart. Orleans corner of Rampart.
Q. What water facilities have you at the residence?
A. We have a hydrant there.
Q. Just one hydrant?
A. Yes sir.
Q. For that you pay $12.00 a year?
A. We had paid twenty, but it was reduced to twelve; it has been increased again on account of having some horses there.
Q. When you has no horses, you paid how much?
A. Paid twelve dollars.
Q. Did you ever pay twenty dollars when you had no horses?
A. Yes sir.
Q. Have you the water works at any other place?
A. I own the property next door, put water works around there for closet.
Q. What water facilities have you there?
A. I believe it is for the kitchen and closet.
Q. Then how much do you pay there?
A. I think it is twelve dollars for each side.
Q. Those are your residences?
A. Yes sir, those are the residences.

Cross-examination by Judge BECKWITH:

Q. Your place is a bar-room?
593 A. Yes sir.
Q. You say you have one faucet there?

A. We have several faucets there; we have faucets we don't use at all. I have one hydrant and we use a faucet for the kitchen and one for the bar, washing glasses; we have faucets there that have not been used at all; they were never opened.
Q. Have you a urinal?

A. We have a urinal, yes sir.
Q. You have a kitchen-sink connection?
A. Kitchen sink—no sir, we have a faucet for the kitchen.
Q. You have got one for the glass-washing, haven't you?
A. For glass-washing, yes sir.
Q. Besides your customers, how many adult persons have you on the premises?
A. We have employees, eight or nine, it depends.

By Mr. FORMAN:

Q. Those are bar-tenders and dish-washers?
A. Employees, yes sir.
Q. They don't sleep there?
A. No sir, simply do duty in the morning and evening, go home at night.

By Judge BECKWITH:

Q. Do you remember when you first applied for water at your residence?
A. Yes sir, I do.
Q. When was it.
A. I forget the exact time; it was about the time I bought the property, I cannot remember.
Q. It was in 1884, wasn't it?
A. I don't remember the date, exactly, I think you will find the receipt there for the first year's rent.
Q. What is the number of rooms in your house?
594 A. Where I live we have a parlor, kitchen, dining-room, we have four or five bed-rooms upstairs; a part of the building is never occupied.
Q. How about horses and carriage there?
A. I have them.
Q. What?
A. I have two horses there—got three but one horse is kept over at the stable on Rampart street.
Q. You keep one horse at your house and a buggy?
A. Two horses.
Q. What size garden have you?
A. We have a garden—not a large garden—the garden I guess it is about 30 by 40 feet.
Q. You use this water there?
A. Well, at times we sprinkle the garden.
Q. Now what other place do you take water?
A. 170 Rampart.
Q. That is the property next door?
A. Yes sir.
Q. What did you say you paid there?
A. I think it is twelve dollars.
Q. You have nothing there but a water-closet, have you?
A. Yes sir, and for the kitchen.

Q. You generally pay about six dollars?
A. The receipts are there.
Q. What do you say you pay there?
A. I have forgotten exactly, I think you will find the receipts there, whether I did pay six dollars for one——
Q. Water-closet?
A. For the property next door to me.

By Mr. FORMAN:

Q. Here is your receipt for 170 Rampart street, look at it please.
A. Twelve dollars, this is 1895—twelve dollars.

By Mr. KRUTTSCHNITT:

595 Q. There is another one there.
A. Twelve dollars.
Q. You will find a six-dollar bill there, the last one.
A. December 1st, 1898, that is for the water-closet; that is for one-half of the property; the whole property pays, I think it is twelve dollars.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence fifteen receipts produced by the witness.

WM. R. RAILEY, recalled for cross-examination.

Cross-examination by Mr. KRUTTSCHNITT:

Q. This book contains a reference to the record book of the company did you see the record book of the company as to pressure at the water works on the mains.
A. The engineer gave me the record, sir.
Q. Where is the record itself?
A. I presume it is at the engine-house, but I don't know.
Q. Did he give you a transcript from the record?
A. No sir, he gave me his statement.
Q. The mains, I understand you said, were taken by you from the map?
A. Map in the office of the water works company.
Q. Now there are a number of conclusions contained in this report which purport to have been drawn from this map, such as the sources from which engines are supplied with water at a fire, and remarks of that kind—where did you get that information?
A. The sources from which, what?
Q. From which you got the information as to how engines at time of fire were supplied with water?
A. Why you have reference doubtless to one particular fire, which, I think, is the only one referred to in the report; that was the Murray and Berger fire.
596 Q. Now, I see on here a statement that should a fire occur anywhere between these streets—that is St. Charles, Delord and Felicity, the engines would be compelled to depend upon water coming from small four-inch mains on the side streets etc. etc.
A. Yes sir.

Q. Where did you get all your information of that kind?

A. The map of the water works Co. shows where those mains are and the size of those mains; my observations led to the conclusion you speak of.

Q. How's that?

A. My observation of the facts led me to those conclusions.

Q. Then the information with reference to size of mains, and sources of water supply at any given point, were derived entirely from this map?

A. Almost entirely so, yes sir, of course, there are places in the city, at times, where they are laying mains, and repairing mains and we had the opportunity of seeing them for ourselves, but the general information was taken from the map.

Q. Now, you go into a discussion of the plugs; variation in the style of plugs; manner of opening them; where did you get that information.

A. From actual observation.

Q. By yourself?

A. The committee, the three of us.

Q. Well, I mean, are you prepared to state that these facts in reference to the plugs are true.

A. Absolutely, yes.

Q. That you, yourself, saw and verified these facts?

A. Absolutely.

Q. There are a great many statements, in this report, dependent upon information derived from others, in addition to em-
597 ployees of the water works company, are there not?

A. Some information from others, yes sir.

Q. I see here, for instance, that the proprietor of a sal*o*-n, in front of whose house a plug stands on Magazine street, gave you some information?

A. Yes sir.

Q. That was derived entirely from this man?

A. Yes, that little b*u*t of information that you see there was.

Q. On affidavit?

A. Why no oath was administered to him, certainly not.

Q. Also some statements from the engineers and foreman of the water works company?

A. Yes sir.

Q. They were not under oath either?

A. Nobody was under oath, of course, we were simply a committee of business men investigating this thing.

Q. Didn't you get a great deal of your information from the chief engineer of the fire department and his assistants?

A. Yes sir.

Q. And they were not under oath?

A. Certainly not.

Counsel for defendant object to the introduction in evidence of the report, on the ground that it is a report of three private individ-

uals, not under oath, appearing in its face to be based to a great extent upon hearsay and that the whole report constitutes a document not *not* supported by the sanction of an oath of any competent witness, and that the report is irrelevant and *res inter alios acta*.

Counsel for plaintiff admit that so much of the report as is shown to have been derived from others is inadmissible, but so much as is shown to have been derived from personal examination is admissible.

Counsel for defendant amplofy their objection and state that this document is not a memorandum made by the witness at the
598 time and does not constitute a memorandum, from which the witness, under the rules, of evidence, has the right to refresh his memory.

A. Can I say a word. I will say that all this examination I kept memorandum of at the time.

Q. Where are they?

A. That was ten years ago, Mr. Kruttschnitt, they are complied in that report.

By the COURT: *9* In so far as this pamphlet embodies the result of personal investigation, made by the witness, which he is going to swear to now that he is tendered as a witness; it seems to me that the document is admissible; in other respects I think that the objection is well founded and should be sustained.

Counsel for defendant excepts to said ruling and reserves this note in lieu of a bill.

Counsel for the Board of Liquidation joins counsel for defendant in objection and rule of exception.

By Judge BECKWITH:

Q. Do you remember what employee, or official it was that you made inquiries *off* at the pumping station?

A. Then engineer in charge, sir at the time.

Q. Do you remember who he was, whether he was the chief or a subordinate?

A. My impression is, sir, that he was the chief, but I really could not say at this time.

A. P. NOLL sworn for plaintiff, deposes and says;—

Direct examination by Mr. FORMAN:

Q. You were a member of the committee of the New Orleans Fire Underwriters' Association on water supply, in December 1889, and January, 1890.

A. Yes sir.

599 Q. Your name is contained in this printed report that Mr. Railey has just testified about?

A. Yes sir.

Q. Was that report the result of a personal examination of that committee into the water supply at that time?

A. Yes sir.

By Mr. KRUTTSCHNITT:

Q. Can you say this was the result of a personal investigation you made yourself, or the result of that which you did with others, and the examination of papers, taken together with your personal observation of certain matters.

A. There is certain information in there which, of course, we got from parties and there is some there from personal investigation we found out.

Q. Can you tell me what you did personally about it?

A. Well, the committee as a whole went around, we took some time to go around in the evening—we were out sometimes as late as 12 o'clock and examined the plugs in the different sections of the city—we also went to the water works, at the plant, looked at the pressure, etc. I notice facts which came to our knowledge.

Q. What pressure *guages* did you use in ascertaining the pressure at the different parts of the system.

A. I don't recall that we used any *guage*.

Q. How did you ascertain the pressure.

A. Looked at the pressure at the works and the *guage* at the engine-room at the works.

Q. What means, if any, did you have of ascertaining the pressure at the different points of the city where you made tests.

A. I don't recollect that we had anything to take pressure with, the simple force of water emitted from the plugs.

Q. I see in this report some statements about pressure at different points in the city, for instance at the wooden case plug on
600 Julia street, between Carondelet and Baronne. You made use of engine 24 to test the plug?

A. Yes sir.

Q. This engine was on duty in place of No. 5, laid up for repairs, the water *guage* indicated ten pounds pressure, which is equivalent to 23 feet high; how did you ascertain that pressure?

A. From the *guage* on the engine.

Q. You don't know whether it was correct, or not?

A. No sir.

Q. Do you know the names of any of the officers or employees of the water works, with whom you came in contact at that time and from whom you obtained information?

A. Well no, we came in contact with Mr. Gardiner, the superintendent and then we several times went to the works and met the engineers in charge there—I don't know their names.

Q. Are you positive it was the engineer in charge?

A. Well, that is my recollection, I am not positive, the time is so long ago that we made that investigation.

By Judge BECKWITH:

Q. Were these tests of pressure taken in the daytime, or at night? Or at what time?

A. Well they were taken—that on Julia street I believe was about eight or nine or ten o'clock.

Q. Eight or nine o'clock at night?
A. Yes sir.
Q. They were all taken at night, weren't they?
A. Yes sir.
Q. After six o'clock?
A. Yes sir.

W. E. DODSWORTH, recalled on behalf of plaintiff, deposes and says.

By Mr. FORMAN:

601 Q. You were also a member of the committee on water supply for the New Orleans Fire Underwriters' Ass'n; December 1889 and January 1890.

A. Yes sir.
Q. Your name is appended to this printed report?
A. Yes sir.
Q. You heard the testimony of Mr. Railey?
A. Yes sir.
Q. Does this report state the result of your personal investigation?
A. Yes sir.

Cross-examination by Mr. KRUTTSCHNITT:

Q. You heard the testimony of Mr. Noll, did you?
A. Yes sir.
Q. Do you agree to the facts which these gentlemen testified to in answer to the questions which I propounded to them?
A. No sir.
Q. What difference do you make?
A. Mr. Noll stated we didn't have a *guage*, but we did have one.
Q. Where did you get it?
A. I don't know; it was in the possession of the chairman of the committee, Mr. Railey, it worked all right.
Q. Otherwise do you agree with Mr. Noll and Mr. Railey's testimony on cross-examination?
A. Yes sir. There was one test that I was not present at though, and that was the test where the engines went to the new basin.
Q. Do you know the names of any of the employees of the water works company, other than Mr. Craig and Mr. Gardiner, whom you had any communication with?
A. No sir, I don't remember their names; I could identify the parties who went with us and opened the plugs and gave us the information, if I should think of them, they were spannermen of the company.
Q. You don't know the name of the engineer with whom you communicated at the works of the company?
A. No sir, I don't; I don't think I could identify the gentleman.

By Judge BECKWITH:

602 Q. What sort of a gauge was it you say that you had one for this, a circular stem gauge or a mercury gauge?

A. I am not well posted about that; I couldn't say; it was a gauge though, that was supposed to be in order; and it answered the purpose that we wanted it for.

Q. You don't know whether it had been standardized or not?

A. I couldn't say that, no sir, we tried to get the best one we could for the purpose.

By Mr. FORMAN:

Q. You gentlemen made a personal investigation?

A. Yes sir.

Q. The representatives of the water works company were notified of it?

A. They were notified, with the exception, I think of once, maybe twice, Mr. Railey and myself went out on an investigation of our own.

Q. Those spannermen; who furnished them?

A. The water works company, I think.

W. P. SIMPSON, sworn for plaintiff, deposes, and says:

Direct examination by Mr. FORMAN:

Q. You represent the Chicago Belting Co.?

A. Previous to December 1st, 1898, I was manager for the Chicago Belting Co., at present the C. T. Patterson Belting Co.

Q. Did that Chicago Belting Co. use the water of the water works company?

A. Yes sir.

Q. What were their facilities?

A. You mean the openings?

Q. Yes.

A. We had one hydrant in the yard, we have two urinals and a wash-basin.

Q. How much annually did you pay?

A. Thirty dollars.

603 Q. Never paid any other rate?

A. No- to my knowledge, not since I have been with them, sir.

Q. Was that the rate that the company you were representing was paying?

A. We have changed our location from 316–318 St. Charles St. to 404 Carondelet, we only changed here the 1st of October.

Q. Of this current year?

A. Of this current year.

Q. But previous to the 23rd of January, 1899, you were paying $30, at the other place?

A. Yes sir.

Cross-examination by Judge BECKWITH:

Q. You had, I understand, one hydrant?
A. One hydrant.
Q. Two urinals?
A. Yes sir.
Q. Wash-basin?
A. Yes sir.
Q. Street-sprinkler?
A. No, we ran the hose from the hydrant through; the hydrant was in the back yard.
Q. For street-sprinkling?
A. Yes sir; that was all we used the hydrant for.
Q. All you use the hydrant for is for street-sprinkling?
A. Yes sir.
Q. How many stories high are they, those premises?
A. Three stories.
Q. Number of rooms?
A. They are just a room to a floor, they are not divided.
Q. Just an ordinary commercial building?
A. Just an ordinary commercial building, yes sir.
Q. What number of adult person-, including servants, employed in connection with this business?
A. There may have been about fourteen, all told.

604 By Mr. FORMAN:

Q. They didn't sleep there?
A. No.
Q. Just came in the morning and went away at night?
A. Yes sir.

JUSTIN DENECHAUD, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you manage the Hotel Denechaud?
A. With my father, yes sir.
Q. You are State senator, I believe?
A. Yes sir.
Q. What were your facilities for the use of water at the hotel, previous to the time you took a meter?
A. I don't understand you.
Q. What openings did you have there?
A. I don't remember, exactly. The bills that we paid show that for years we were charged for the hotel, two bath-rooms, three closets, for the range, three urinals and wash-basin; that was specified on the bills.
Q. And your bill was how much?
A. It varied from $150 to $200; outside of that we had another bill for street-sprinkling, twenty dollars a year.

By Mr. KRUTTSCHNITT:

Q. How much?
A. Twenty dollars a year.

By Mr. FORMAN:

Q. Sprinkling the street in front of the hotel?
A. Yes sir.
Q. Then afterwards you got a meter?
A. Yes sir, about 4 or 5 years ago.
Q. Are those your receipts for water furnished through the meter?
A. Yes sir.
Q. At thirty cents a thousand?
605 A. Yes sir, thirty cents a thousand.
Q. What is the number of gallons to the cubic foot?
A. Well, it varies every month.
Q. Number of gallons to the cubic foot?
A. 7½ I think the bill calls for.
Q. It is stated on the bill—on a late bill?
A. Up to a year or two ago it was not mentioned—the bill for the last yeae has the amount of gallons multiplied by the amount per cubic foot to the gallon, it is charged for at the rate of 30 cents a thousand.
Q. Here is one that is marked at ten——
A. It is marked at ten, yes sir.
Q. Ten gallons to the cubic foot?
A. Yes sir, I may say that these bills don't always show the reading of the meter, because the meter was claimed by the water works company, at times, not to do its full duty, or register the entire flow of water going through it; they claim that the meter was too large for the amount of water consumed by us. I will state that we purchased the meter—we were compelled to buy a meter designated by the water works—they designated what kind of a meter and where that meter should be bought, if I mistake not it was purchased from a concern which was owned and controlled by the president of the N. O. water works, at that time, Mr. Albert Baldwin—the New Orleans Railway & Mill Supply Company. After that meter was in operation for a time our bills naturally were smaller than we had been in the habit of paying. The water works company called our attention to the fact and we told them that we had complied with their requirements having purchased the meter selected by them that we should purchase. Then they said the meter was wearing out on account of the excessive sediment in the water that had caused the thread of the meter to wear out; they said we should have the meter repaired, and we sent the meter to the concern we had purchased it from—had the meter sent back. Several times
606 since that the water works company have claimed our bills were still too small. Lately they ordered us to change our meter, we protested at the injustice of having to pay for another meter, but they volunteered then to take our meter which we had

paid for, I think $40.00, may- $42.50, I forget—and replace it with a meter of a smaller size—this meter is now in use.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence forty-five receipts, produced by witness, marked Decechaud Hotel.

Cross-examination by Mr. KRUTTSCHNITT:

Q. Please state the circumstances under which you purchased this meter; how did the subject arise.

A. Well, the water works company and we always argued; we argued that we were paying too much for water; our hotel is built not for a hotel, we have not the convenience there of a modern hotel. We have no place for washing purposes, and our hotel, at that time, was not supplied with all the modern conveniences, running water, and closets. They attempted to charge us $250. We protested as an injustice and we said that the bill that they were charging us, over $200, and $175.00, was in excess of what we should pay. After a great deal of discussion it was decided that a meter should be put in. The result of the meter being put in—we protested about the meter being put in, because we thought the bill of $40 was an imposition on us to pay that money—at that time we were not in very good financial condition and we were going to some expense and we tried to avoid that particular expenditure; but we finally did put it in and the result was as you will see. I don't think the average amount of water we have paid has exceeded $150.00 in any one year, whereas they wanted to make us pay $250, or $225—it was then that we put in the meter. Mr. Gardiner informed us that our rate would be increased.

607 Q. With whom did you have the conversation which finally resulted in your purchasing the meter?

A. I will state that my father had the conversation at the office of the company, with, I suppose, the superintendent, Mr. Gardiner.

Q. Were you there?

A. No.

Q. Why then do you testify as to what was done by the water works company in naming the person from whom you should make this purchase?

A. Well, because, on one occasion that I was there and my father came back from the office of the company with the name in writing where the meter should be purchased.

Q. You derived all the information from your father?

A. No, my father came with a memorandum as to what meter should be purchased; I went out and saw if that meter, that particular brand of meter could be purchased elsewhere—I found there were other sorts of meters but that meter was of a style sold only by the N. O. Railway & Mill Supply Co.

Q. This testimony of yours that the New Orleans Water Works Co. required you to buy a meter from the N. O. Railway & Mill Supply Co. is derived entirely from your father's statement to you?

A. Not entirely, no sir, because that meter was being discussed, I suppose, for six months; during the summer time our hotel was undergoing some repairs and during all that time we were discussing whether——

Q. With whom?

A. Well several times with my father in Mr. Gardiner's or Mr. Craig's office; we had several interviews.

Q. I ask you now, did anybody connected with the New Orleans Water Works Company, ever tell you to go to the New Orleans Railway & Supply Co. to buy a meter?

A. Tell me individually?

Q. Yes.

608 A. No sir.

Q. Then all your testimony on that particular subject is derived from other persons?

A. That part which you now mention, not all my testimony.

Q. All on the subject of the purchase of the meter?

A. Well, no sir, as about the Railway & Mill Supply Company, yes, but as to the brand of the meter, no.

Q. Did anybody at the New Orleans Water Works Company, ever tell you that you must go to the New Orleans Railway & Mill Supply Company to get a meter—to you personally?

A. No, but an employee of the water works told us what brand of meter.

Q. What employee.

A. Well, the foreman at the house told me what meter was being used and I went out myself to various other places and tried to buy that particular meter.

Q. I am going to have an answer to this question. I want you to tell me if anybody, any of the officers of the New Orleans Water Works Company ever told you to go to the N. O. Railway & Mill Supply Co.

A. No sir.

Q. Now, you spoke about the president of the water works Co. being interested in that business——

A. Well I said—I don't know if he was president at the time, but Mr. Craig is president now—I know Mr. Baldwin was at one time the president.

Q. When did you buy this meter?

A. It must have been four or five years ago. I have forgotten exactly.

Q. Don't you know that Mr. Craig has been president of the company since 1888?

A. I don't remember, it may be; I don't know that to be a fact.

609 Q. Well, then you don't know anything about that subject you have testified about?

A. Well, I know Mr. Baldwin was connected with the concern at one time, I may have been in error as to the position held on that particular date.

Q. Is it not a fact that he was not president at the time you bought your meter?

A. If Mr. Gardiner says he was not, he must know—I don't know whether he was, or not.

Q. You know you are under oath, and you are testifying, and not Mr. Gardiner.

Q. You ask me the question do I know that of my own particular knowledge?

Q. Yes.

A. No, I don't know whether he was, or not, of my own personal knowledge.

Q. Did you have any conversation with Mr. Baldwin about the meter?

A. No sir.

Q. Prior to the use of the meter, you paid what are known as flat rates; that is to say, simply a bill was sent into you without regard to the actual number of gallons used, didn't you?

A. Yes sir.

Q. And that bill was from $150 to $200?

A. It was for a greater amount than that; you will see the amount marked $225; we never paid over $200—I may state though, that we have paid in excess of $200, account of sprinkling the street and you will find small bills that we were obliged to pay for our tenant under the hotel.

Q. That is your subtenants.

A. Yes sir, subtenants, I qualify that answer; I didn't get all the bills; you will see one of them for $18. I paid for the railroad office under the hotel.

Q. Where was that hose box for sprinkling the street located?

610 A. Outside my dining-room, sir.

Q. Out in the street?

A. Yes sir.

Q. For that you pay twenty dollars a year?

A. Yes sir.

Q. Your hotel is a cirner one, corner of Union & Carondelet Sts.?

A. Yes sir.

Q. Or is it Perdido?

A. It is corner of Perdido.

Q. What frontage have you on Carondelet street?

A. Well, I dare say about 125 feet.

Q. What depth?

A. I suppose about 80.

Q. How many rooms in the hotel?

A. About 64 guests.

Q. How many rooms in all?

A. Counting the parlor and all?

Q. Yes.

A. I suppose four or five more.

Q. Only four or five more?

A. We have got sixty rooms, that includes those of the family; we have no servants sleeping at our house at all.

Q. Bar-room connected with the hotel?

A. We have no bar-room, sir.

Q. Never had?

A. Yes, sir when the hotel was opened in 1884 we had a bar-room then for one year; after that we leased the bar-room for one year and my father was averse to having a bar-room connected with the business, and we closed it up.

Q. Have any bath-rooms?

A. Yes sir.

Q. How many?

A. At the time there were two, I think, they are mentioned
611 on the bill.

Q. How many did you have on the first of January, 1899?

A. We had eight.

Q. Not now, but on the first of last January?

A. We have eight and we had them then.

Q. How many water-closets?

A. About nine.

Q. You have, of course, a range, or ranges in the kitchen?

A. I have a range with a water back that supplies the hot water for the bath-rooms.

Q. You have got cold water in the baths, of course?

A. Yes sir.

Q. You have cold water in the kitchen sinks?

A. Yes sir.

Q. Supplied from the water works?

A. Yes sir.

Q. How many urinals about the hotel?

A. Three.

Q. Any wash-basins?

A. Three wash-basins, two downstairs, back of the office, and one upstairs in one of the closets.

Q. Do you mean there is only three actual basins, not a row of basins?

A. Two in one place and one in another, that is all; we have no running water in the rooms at all; no stationary washstands.

Q. The hotel on the 1st of January, 1899, and for a number of years prior thereto had practically all the modern conveniences of a hotel, didn't it?

A. Well, to a small extent, yes, it didn't have heaters only for the last year.

Q. Prior to the 1st of January 1899.

612 A. They were put in, but they were not in use; I may say that they were not operated until the middle of last winter. We had considerable trouble which was pretty well aired in this court.

Q. Do you use the water of the water works company for all?

A. Yes sir, entirely.

Q. This hotel is how many stories high?

A. Four stories only.

Q. No family outside of the guest-, besides your own occupy these premises?

A. None at all, sir.

Q. What is the highest number of guests you have ever had in the hotel?

A. Around carnival about 125.

Q. What is the capacity of the hotel under ordinary circumstances? Of course I understand that at carnival time you might put — cots?

A. Yes sir, put cots. Well we have about 50 rooms: the family occupies the ordinary amount; I should say we have fifty guest-rooms. You may say a good many people occupy rooms to themselves you may say seventy-five people gives a crowded house; which very seldom occurs, except during carnival times.

Q. How many employees have you?

A. That varies we have but seven now; that varies up and down, it might be as low as seven or up to twenty-five.

Q. Do you keep any horses on the place?

A. No sir.

Q. Vehicles?

A. No sir.

By Mr. FORMAN:

Q. How do the facilities for the use of water which you have had since you bought the meter, compare with what you had before?

A. Our facilities for water—we have largely increased the modern improvements of the hotel in the last four or five years; we had only four bath-rooms, now we have eight; we have had at
613 least four new closets; we have steam heat, that forces us to use a little water.

Q. In the winter time——

A. I think during the winter months our patronage is increased.

Q. With the meter—your use of water has increased, your facilities for bath-rooms, closets and the costs of the use of water are increased—your bill is actually less than you paid before you had the meter?

A. I think about a hundred dollars a year less; if we are paying in proportion.

J. L. DOLHONDE, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What business concern do you represent?

A. B. F. Avery & Sons.

Q. Does that concern use the water of the New Orleans Water Works Company?

A. Yes sir.

Q. What facilities do they have, what openings?

A. One faucet.
Q. How much do they pay?
A. Fifteen dollars a year, that is they use one faucet at the store and in the last year we have had one faucet at the warehouse.
Q. How much do you pay for that?
A. Fifteen dollars for the one at the warehouse and $15 for the one at the store.

Cross-examination by Mr. KRUTTSCHNITT:

Q. B. F. Avery & Sons, is what?
A. Plows and agricultural implements.
Q. And a non-resident firm, or corporation isn't it?
A. The home office is Louisville, Ky.
Q. Who represents them here?
A. W. P. Chambers; I am their book-keeper and cashier.
614 Q. Where are they now, where is their place of business.
A. They are now at 430 Canal street, ever since September of this year.
Q. Of 1899.
A. Yes sir.
Q. Where were they before that?
A. 420 in the same block.
Q. These offices that you have been testifying about—are where?
A. They were for 420.
Q. How long were they there?
A. I have been with them nine years.
Q. And they were there during the whole of that time?
A. Yes sir.
Q. How many stories in h-ight are the premises you occupy.
A. Three floors, without counting the downstairs, the ground floor.
Q. How many persons were connected with that business, I mean as employees or representatives.
A. There was eight, including the two commercial travellers.
Q. You said there was one faucet on the premises?
A. Yes sir.
Q. Yard hydrant was that?
A. No, it was in the back part of the store.
Q. Is there a wash-basin connected with it?
A. No sir, it is just a simple hydrant that we would get water from.
Q. How's that?
A. It was just a simple hydrant that we would get water from to wash the place.
Q No urinals?
A. No; it was situated about 18 inches from the urinal, if we wanted to put water in the urinal we had a little piece of rubber tube we would attach from the nozzle to the urinal.
615 Q. You washed the urinal from the hydrant?
A. The young man would put it in there once in a while to wash the sink out.

By Mr. FORMAN:

Q. You didn't use it all the time?
A. No sir, used to leave the water go in there at night about ten minutes.

By Mr. KRUTSCHNITT:

Q. No water-closets?
A. No sir.

616 Civil District Court, Parish of Orleans, "Div. E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for plaintiff, taken in open court this 21st day of November, A. D. 1899, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLaughlin, and C. C. Frederichs, for plaintiff; Messrs. J. R. Beckwith, E. B. Kruttschnitt and E. Howard McCaleb, for defendant; B. K. Miller, Esq., for Board of Liquidation.

To the ruling of the court on the matter of exempting defendant from costs, which ruling is adverse to the contention of the defendant, defendant's counsel except- and reserves bill of exceptions and takes this note in lieu thereof.

Counsel for the Board of Liquidation, joins in the objection and reservation of bill to the ruling of the court.

Dr. GEO. K. PRATT, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a practising physician of New Orleans, I believe?
A. Yes sir.
Q. For how long?
A. About twenty-five years.
Q. What have you to say as to the wholesomeness of unfiltered, or river water as furnished by the water works Co.
617 A. It is not at all wholesome for consumption.

Cross-examination by Mr. BECKWITH:

Q. What do you mean by wholesome?
A. Will not produce disease in some form—incapable of producing disease in some form.
Q. Do I understand you that it is not at all wholesome?
A. As it is taken from its present intake I do say it is unwholesome even when filtered.

By Mr. KRUTTSCHNITT:

Q. Even when filtered?
A. Even when filtered.

By Judge BECKWITH:

Q. Have you ever analyzed it?

A. No sir, but I have seen an analysis—I have reason to believe an analysis has been made and fecal matter discovered.

Q. Where was the water taken from?

A. Taken from the hydrants—taken from the distribution—Mr. Metz told me that; when I was on the board of health.

Objected to as hearsay.

Q. I asked you if you had analyzed it?

A. I said I had not analyzed it.

Counsel for defendant ask that the witness' testimony be stricken out.

By the COURT: That is hearsay and objectionable as such.

By Mr. FORMAN:

Q. Assuming that a skilled chemist such as Dr. Metz, has ascertained by analysis that there was fecal matter in the water drawn from the hydrants—or albuminoids, would that water be wholesome or unwholesome?

A. It would be unwholesome.

Q. What is the effect on the human system of taking any sort of sand constantly and habitually into the stomach?

618 A. Liable to produce diarrhœa—sometimes laceration of the bowels might induce appendicitis.

By Judge BECKWITH:

Q. Chemically, what are albumenoides?

A. I will have to refer you to your chemist on that point.

Q. Do you know how ammonia is developed from nitrogeneous matter?

A. By decomposition.

Q. What decomposition?

A. I don't know, I am not a chemist; I simply know the fact that is the work of decomposition on organic material.

Q. What would you expect to find chemically, if you found fecal matter in the water?

A. Albemunoidal ammonia is the most common representative of it, though you can find pure fecal matter, undecomposed.

Q. Have you found it?

A. No sir, I did not—I stated before that I was not a chemist and therefore do no chemical work whatever.

Q. Do you know where the water is taken in?

A. I do.

Q. Where?

A. At the foot of Richards street, or in about that immediate neighborhood.

Q. What was the date of the analysis you say you saw?

A. I must refer you to Prof. Metz for that.

Q. What was the date of the analysis?
A. I say I must refer you to Prof. Metz for that.
Q. You don't remember that?
A. No sir, I don't remember that.
Q. You don't remember whether it was twenty years ago——
A. It was simply repeated to me as a fact that there had been albumenoides discovered at, or about the time, you were inaugurating the system of filtration here; about that time; he can recall the fact, probably he has the analysis among his records.
Q. Was it during the time that that filter was in inauguration?
619 A. I couldn't say that, but it was somewhere about that time.
Q. You never did analyze the water, did you?
A. No sir, I am not a chemist.
Q. Did you ever see any analysis by Metz, or anybody else?
A. No.
Q. For filtered water?
A. The Mississippi River water you mean, filtered?
Q. Yes.
A. No sir.

By Mr. FORMAN:

Q. You were a member of the board of health at the time you saw this analysis?
A. At the time I got this information.
Q. Dr. Metz was the chemist of the board?
A. The chemist of the board at the time.
Q. Did he make the analysis at the request of the board?
A. I couldn't say that—no—I couldn't say.

It is understood that all testimony of this kind as to impurity of this water, as water, goes in under the objection already made; on the ground that no such issue was tendered other than that the water was unwholesome by reason of the sedimentary burden it bore.

By the COURT: I have ruled on that objection.

It is understood that the same objection shall be considered, without being urged, to all similar evidence.

F. A. DICKS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are a member of the house of Finlay, Dicks & Co. wholesale druggists?
A. Yes sir.
Q. Corner Magazine & Gravier?
A. Yes sir.
Q. Does your firm use the water of the water works company?
A. Yes sir.

620 Q. Do you have a meter?
A. Yes sir.
Q. Have you had a meter there ever since you have been in business,
A. No sir.
Q. Well sir, your establishment is comparatively about the same size as Mr. Brunswig's?
A. Yes, I presume it is.
Q. What were you paying before you had a meter?
A. One hundred dollars a year, I think.
Q. What facilities did you have—what openings?
A. Well, we have quite a large number of openings—I don't know just how many we have.
Q. Can't you count them?
A. Well, I believe we have at least ten.
Q. How much have you been paying since you had a meter—how much per thousand gallons—have you any receipts with you?
A. Well the subpœna was directed to me as an individual, and not as an officer of the corporation, so I brought my receipts only as an individual.
Q. Can you tell us how much per thousand you are paying?
A. We are paying less since we had the meter, possibly about 25 % less then when we paid the other rate or $100.
Q. How much per thousand gallons?
A. Really I don't know, I have not looked into the matter.
Q. We will be obliged to you if you will just send us the receipts.
A. I would have brought those if the subpœna has been directed to the corporation.
Q. Do you use the water works as an individual?
A. Yes sir.
Q. At your residence?
A. Yes sir.
Q. What are your facilities there?
A. You mean my present residence, I have moved since the 1st of October.
621 Q. No, I mean previous to January 1899.
A. Two.
Q. Two openings?
A. A yard opening and a closet.
Q. What were you paying there?
A. $19.00.
Q. What was the size of the yard?
A. Fifty-five feet front.
Q. About how much by how much?
A. By 125 feet deep.
Q. That includes the room that the house covers, of course—how many rooms were there in the house on which you paid $19.
A. Eleven, I believe.
Q. How many in the family?
A. Four.

Q. If you will kindly send us your receipts for the corporation—I believe it is a limited liability company, we will not trouble you to come back; we would like your receipts prior to 1899.

The receipts referred to are offered in evidence to be produced and filed on behalf of plaintiff.

Cross-examination by Judge BECKWITH:

Q. What was the number of the residence you occupied prior to your present residence?
A. 1918 Napoleon avenue.
Q. Now your number is what.
A. 1913.
Q. That is a two-story house?
A. The one I am living in now?
Q. Yes.
A. Yes sir.
Q. How about the one prior to 1899.
A. Two-story house.
Q. Would you name the openings you had?
622 A. A closet and hydrant.
Q. Closet and hydrant in the yard?
A. Yes sir.
Q. No bath-room?
A. No sir, it was a closet in the house and a hydrant in the yard.
Q. No bath-room connection?
A. Not with the city water.
Q. Is there a kitchen-range connection?
A. No sir.
Q. Was there a hose connection from the yard hydrant?
A. Oh yes sir.
Q. What was the size of your house?
A. 55 x 125 I think.
Q. What was the cistern capacity?
A. I couldn't tell you.
Q. Now, relative to your drug business, Mr. Forman asked you if your business was the same as Mr. Brunswig's concern; you answered yes, did you mean in character, in amount or size of store?
A. He said I believe about the same size.
Q. How many employees do you have on the place?
A. Well, I couldn't answer definitely, but about sixty.

L. W. BROWN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you were city engineer from some time in 1892 to 1896?
A. Yes sir.
Q. Did you in your official capacity make an actual survey and run the streets for the drainage plant?

A. Yes sir, made what is called a topographical survey.

Q. Did this official data show the number of streets that were built upon, and improved, and those that were not built upon, and unimproved?

A. The records of the office contain all that information, yes, sir.

623 Q. As the result of an actual survey?

A. Yes sir.

Q. Will you look at this map, or blue print and see whether this shows the portions of the city that were built upon at the time of the survey.

A. This is a lithographed map that was attached to the report on drainage of New Orleans and shows the various are-s which comprised the city at that time, and its capacity to absorb water.

By Mr. KRUTTSCHNITT: A little louder.

A. Showing the areas of the different localities with a view of determining the amount of absorption or run-off.

By Mr. FORMAN:

Q. Was not one of the factors the density of improvements and the places w-ere buildings and improvements were?

A. That was one of the characters of the areas.

Q. I notice under the head of explanation is "area of comparative density of improvement"?

A. That is right, sir.

Q. By improvements you meant houses, didn't you? Buildings—structures?

A. Not necessarily.

Q. What kind of improvements did you mean?

A. It was a map of the whole city showing sections of the city in its entirety, and the relative portion of that which is improved of different characters and also that which is not improved; this portion of the city in the rear is wholly swamp and of course is not improved.

Q. Colors are shown for the improved, the medium, the sparse and the rural?

A. Yes, sir.

Q. This appears to be dated in 1895, will you please designate if you know any areas which are marked here by colors as rural, and which has not been built upon pretty fairly since 1895?

624 A. This survey was made in the years 1893 and 1894 and the report prepared in 1895 and since the survey was made there has been some improvement in some portion of the rural section; for instance the part around Audubon Park and the rear of Audubon place, Calhoun street, Webster street has been paved back to Claiborne, necessarily houses began to be built, improvements made and has changed what was then the rural district into what we called sparsely settled. Also between Magazine street and St. Charles avenue, adjacent to the park—very considerable improvement there since this survey was made.

Q. Will you indicate on that map about where this increase of improvements are, mark it with a pencil.
A. This would come up along the park and include all that area.
Q. And how far back beyond St. Charles avenue?
A. Probably three or four blocks.

The map referred to is offered, introduced and asked *bo the* filed in evidence by counsel for plaintiff.

Cross-examination by Mr. BECKWITH:

Q. This map was not made and this survey carried on especially for the purpose of getting the outline of the densely built and partially built portions of the city, was it?
A. The survey was made for the purpose of determining conditions for your board of drainage; one of the conditions was, of course, the levels of the ground; another was approximately the areas as now existing, or difference in intensity of run-off, and the map there will show approximately that which existed at the time the survey was made and was not at all to be used in condemnation for the system of drainage we are operating upon or building, as the next maps in the book will show these areas were largely increased.
Q. What I mean to say is, that you could not from just an examination of this map and its various tints determine whether there were two houses to a block, or ten?
A. No sir; the areas there are approximated only, as near as could be obtained by the conditions of survey.

625 R. D. LAMPSON, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep the restaurant old number 282 Custom-house St.?
A. Yes sir.
Q. New number 1548?
A. Yes sir.
Q. How long have you been there?
A. Four years.
Q. Do you use the water of the water works company?
A. I did, yes sir.
Q. What?
A. I did, not now, no sir.
Q. When did you use it?
A. Used it in 1887 to 1888.
Q. You mean 1897 and 1898?
A. I mean 1897 and 1898.
Q. Why did you quit?
A. Well, they raised the price on me, that was it.
Q. How much did they raise the price on you?
A. Wanted fifty dollars for this year and I wouldn't pay it.
Q. What facilities did you have, what openings?

A. The first year I had one hydrant; the next year I had the fountain and hydrant; that was the last year 1898.
Q. Give us your receipts.
A. Yes sir.

Witness produces two receipts for the years referred to, which are offered in evidence by plaintiff's counsel.

Cross-examination by Judge BECKWITH:

Q. You keep a bar-room and restaurant, don't you?
A. Yes sir.
Q. Do you remember when you first took water?
A. Yes sir.
Q. When was it?
626 A. The month you mean, or the year?
A. Give it as near as you can.
A. 1898, I think somewhere around there, I think it was May, if I am not mistaken; something like that, I don't remember the month; I know I just ran two full years.
Q. What was the rate you paid then?
A. Eighteen dollars the first year; now I think that was it, to the best of my memory; eighteen dollars, whatever the receipts are.
Q. In 1897 that was, wasn't it?
A. I think I commenced in 1897.
Q. Now in 1898 didn't you make additions to your demands for water considerably?
A. Yes sir, I had a fountain.
Q. What kind of a fountain was that?
A. Just one of those ornamental fountains.
Q. Supplied the fountain?
A. Yes sir, supplied the fountain.
Q. What else did you add?
A. Nothing more in regard to the water business.
Q. Didn't you enlarge your premises, take in more space in the restaurant and bar-room?
A. Yes sir.
Q. Well, you enlarged the number of tables and increased your business in 1898?
A. Yes sir.
Q. Did you have a filter?
A. How's that, sir.
Q. Did you have a filter.
A. No sir.
Q. You had a bar-room for selling drinks at the bar?
A. Yes sir.
Q. How did you wash your glasses?
A. With the water that was carried in and put in the glass washer.
627 Q. Carried from the hydrant?
A. Yes sir, from the hydrant.

Q. There was an opening then for glass-washing besides the hydrant?
A. No sir.
Q. Where did you get the water in your bar to wash the glasses?
A. Went out to the hydrant, carried it in and put it in the glass washer.

By Mr. FORMAN:

Q. You carried it in in buckets?
A. Carried it in in buckets, yes sir, as a general rule we took it from the cistern though.

Mr. BECKWITH:

Q. What other uses did you make of the yard hydrant?
A. Just for kitchen use.
Q. Washing?
A. Yes sir.
Q. You do quite a large restaurant business, don't you?
A. Pretty fair, I do best in the winter time.

By Mr. KRUTTSCHNITT:

Q. When was it that this effort to raise it to fifty dollars was made?
A. That was done when I went to renew the water this year.
Q. What part of the year?
A. At the termination of this last receipt there.
Q. That was in April, 1899, look at the receipt and see whether it was in April, 1899?
A. Yes sir, about May, 1899.

Counsel for defendant asks that all portions of the testimony referring to alleged attempt to increase rate to fifty dollars be excluded on the ground that it is subsequent to the institution of the suit.
By the COURT: I grant the motion.

628 A. C. BELL, recalled for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You gave us the other day a calculation of the number of miles of built-up streets on which there were no water pipes at 528, I believe?
A. No sir, some of those miles of street had water pipes on them my figures show 121.7.
Q. I beg your pardon, 528 was the total number of miles of built-up streets?
A. Yes sir, that is thickly built and sparsely built.
Q. Did I understand you that those were based upon surveys made by Mr. Brown, for the drainage board—official surveys?
A. It was based on that, yes sir.
Q. From official data in your office?
A. Yes sir.

Q. Now, I asked you to be sure that I understood that, and then I will ask you this question; have you any official data as to the number of sewer pipes leading into the Mississippi river in front of New Orleans?

A. Yes sir, I have that data.

Q. Please give us the number and the institutions using those sewer pipes?

Counsel for defendant objects on the ground that if it is official data the proper way to introduce same in evidence is by producing an extract made from the official records.

Q. Is that an extract from any document in your office?

A. This is a blue print from a tracing in my office, which was compiled by the employees of my office, under my supervision. There are a number of sewer pipes leading into the river in the first and second districts. There are five sewer pipes entering into the river in the close vicinity of Canal street, above and below.

Q. You have the map here?

A. Yes sir.

629 Q. We ask for the data itself.

Counsel for plaintiff offers, introduces and asks to be filed in evidence the map produced by the witness and then by way of explanation of the map, asks the witness to state how many pipes went into the river and how many institutions empty into these sewer pipes.

A. I have already stated that there are five emptying into the river; the first one empties in at Poydras street; this one belongs to the Cumberland Telephone and Telegraph Company.

Q. What institutions use that, empty their sewerage and fecal matter into that?

A. The Cumberland Telephone & Telegraph Company empty into that and also the city hall.

Q. What is the next?

A. The next one *in* the board of trade sewer that empties in at the head of Gravier street, that is used by the board of trade, I. L. Lyons & Co. Canal bank, Citizens' bank, Bank of Commerce, Masonic Temple, Denechaud hotel, Cotton Exchange, Hennen building, Mechanics' and Traders' Insurance Company, and Jesuits' college. Now the next one is the St. Charles Hotel sewer; that empties in about the head of Common street, that is used by Baldwin & Co. New Orleans national bank, Morris building and St. Charles hotel and that is all, maybe the L. & L. & G. Insurance Co., but it is not definitely shown on this map. The next one is below Canal street; there is another here that is *now* down here; the custom-house sewer, that makes six; that empties into the one that carries the sewerage from the custom-house. Then there is the D. H. Holmes sewer; both those empty in about the head of Custom-house street; the D. H. Holmes sewer takes the sewerage of Holmes' dry-goods establishment, also Pickwick Club—this map is only up to 1898, there

have been connections made since then; I know the Grunewald hotel empties into that too, but it is not shown on this map.

630 Q. Any others?

A. Yes sir, we have the Charity Hospital sewer—one minute, the New Orleans court-house and jail also use the D. H. Holmes sewer. The Charity hospital carries the sewerage of the Charity hospital that empties into the river a little above,—between Custom-house and Bienville.

Q. Isn't there also a sewer for the Marin- hospital at the foot of State street?

A. There certainly must be, but to my own knowledge I cannot state; a building of that character certainly must empty its sewerage into the river.

Q. Do you know of any occasions when the salt water of the Gulf rises at New Orleans and the river is blue.

A. I notice occasions when the river was low enough for the water in front of the city to be brackish.

Q. With water of the Gulf?

A. When I say brackish I mean it was sweet; I cannot recall the exact year but I think it was 1895; either 1894 or 1895; I know the water was very sweet; it was so brackish that I would not drink it; I attempted to drink it at the Orleans plantation, it was so sweet and brackish that it was not at all palatable.

Q. By sweet you mean brackish?

A. Yes sir.

Q. What is the difference between the level of the Mississippi river now and the Gulf level at New Orleans, from the gauge reading yesterday?

By Mr. BECKWITH:

Q. What is it you have, a newspaper to offer?

A. The question was asked me what was the difference between the stage of the water in the river and the Gulf; I find the guage reading in this paper.

Counsel for defendants object.

631 A. I would state that the reading of the mean Gulf level on the Canal Street gauge is 2.52; now the difference in the stages as given by that gauge—that reading will give you the difference of mean Gulf level—of course I don't know what the stage of the Gulf is, it varies; high winds will cause a difference a fluctuation in the tide will cause a difference, but that is what we figure as the mean Gulf level, the level on the Canal Street gauge 2.53.

Q. You mean when the reading on the Canal Street gauge is——

A. 2.53, that that would be mean Gulf level; that mean Gul- level was determined by observation of the Gulf gauges and it is connected with the city here by a series of precise levels.

Q. How would the Gulf level then compare with the level of the city when the city gauge was marked 2.53.

A. If that is the stage of the water on the gauge?

Q. Yes sir.
A. That would be mean Gulf level.
Q. The Mississippi River water would be at mean Gulf level?
A. Yes sir.
Q. And if there was a northeast wind blowing the water up the river, then how?
A. Sir?
Q. If there was a northeast wind blowing the Gulf water up the river, then how?
A. Well the probabilities are the water would be brackish.

Cross-examination by Judge BECKWITH:

Q. I suppose you had nothing to do with giving the lines of any of these sewer pipes; that was done prior to your being in the office, was it not?
A. Not for the sewer pipes, but for the Cumberland Telephone & Telegraph Co.
Q. How long ago was that installed?
A. Couldn't give you the exact date, but I think it was about nine months ago.
Q. Since commencement of 1899?
632 A. Yes sir.
Q. Done under city ordinance was it not?
A. Yes sir.

Counsel for defendant state that it is shown that this Cumberland sewer was built since 1899 and ask that the testimony with reference thereto be stricken out.

By the COURT: That is covered by my previous ruling on the same subject-matter.

Q. Did you give the lines for any of those others, or the connections?
A. No sir, I did not.
Q. Now, in getting at the data for delineating these pipes on the map you have had to consult the ordinances?
A. Yes sir, to consult the ordinances and also get the information from the most reliable sources that we could in regard to location of water works in the city.
Q. What would be the most reliable source you could go to?
A. My recollection of the board of trade ordinance—that is rather sweeping, it gives them the right, I think to lay sewer pipes and connections at different parts of the first district; I am not sure whether they go to the second, and they are extending it to custom-house——
Q. Do you know when the board of trade pipe was installed?
A. I do not, sir.
Q. Can't you tell approximately what year?
A. No sir, I cannot.
Q. In your examination did you find whether it was under an ordinance, or not?

A. That I couldn't state. I would like to state in connection with that, that this map was prepared by employees in my office, under my supervision; of course with the multitude of details that I have to look after I cannot thoroughly familiarize myself with every little detail in the office.

633 Q. I understand that, but di- you know at what time the Charity Hospital sewer pipe was installed?

A. No sir, I don't know that.

Q. Do you know whether that was under the authority of an ordinance.

A. That I couldn't state.

Q. Do you know when the Custom-house sewer was installed?

A. No sir.

Q. Cannot tell whether it was before 1878 or since?

A. I presume it was—must be by ordinance, because they are through the streets of the city and they couldn't be laid otherwise than by authority and with the consent of the city.

Q. The same you believe to be true with regard to all the other installations you named, I suppose?

A. I have no reason to doubt the correctness of that map because it was done by compilation—my employees compiled it and like a good many other of the matters done in my office I have to rely on my subordinates and papers that they bring; it is impossible for me, considering the amount of detail there is in my office, to th-roughly look after any particular piece of work; I have to depend on my subordinates.

Q. That is not an answer to the question. Will you read him the question.

A. It is a qualified answer, sir.

Q. Do you know of any installation, or believe there exists any installation of sewer pipes, among those you have named, that was not under the authority of a city ordinance?

A. From my knowledge of such affairs, I would certainly answer you that pipes could not be laid in the city, or through the city without the authority of an ordinance.

Q. Isn't it possible for you, in your office at the city hall, to be able to answer us under what ordinances, if any, these various pipes were laid.

634 By Mr. FORMAN: The ordinances themselves are the best evidence.

By the COURT: I think the objection is not well founded the question seems to be purely introductory.

A. In answer to that question, if the court will allow the time, I will have the ordinances hunted up and introduce and submit them.

Q. We desire them because they must delineate routes better than guesswork; can you produce them.

A. If you can give me the time I can produce them.

By Mr. McCaleb:

Q. How long do you need, Mr. Bell?

By Mr. Kruttschnitt:

Q. Could you produce them next Monday.
A. I will produce them next Monday, yes sir, that is ample time.

George H. Grandjean, sworn for plaintiff, deposes and says.

Direct examination by Mr. Forman:

Q. You were city engineer?
A. Yes sir.
Q. Are you now?
A. I have been at various times, until last year I was chief clerk for the city engineer.
Q. You were employed in the city engineer's office under Mr. Bell?
A. Yes sir.
Q. Will you state whether, or not, you made the compilation to which he refers, of the number of miles of built-up streets in New Orleans.
A. I did; it was done under my supervision.
Q. Was that from surveys of Mr. Brown for the drainage board. From that data?
A. Well, it was done by scaling the streets; embraced within practically the same areas as shown on Mr. Brown's map as built up.
635 Q. And it was in that way that Mr. Bell arrived at the number of miles of built-up streets which he has lately reported?
A. Yes sir.

Cross-examinationby Judge Beckwith:

Q. Will you look at this lithographed map marked 521, introduced by plaintiff here and state if that is the map from which you took your scale, or the original of that map.
A. No sir, it was not this map; my answer was a while ago from a map of the city of New Orleans showing practically the same improved area as this map; this does not show streets.
Q. Did it show by the various colors—tints, the same as on that map?
A. It was also colored and marked in tints by me, so as to delineate to the clerk or to the assistant who measured, how far he should proceed with his work, and where he should stop.
Q. Well then you took your scales from the various designs, according as the colors indicated they were built up or not; that is you scaled off the different squares representing different degrees of density of improvements, did you not?
A. No sir, I just took what was improved, densely, or otherwise.

Q. How did you get it, from the tint?

A. From the tints marked by me; from personal knowledge of the improved portions of the city of New Orleans, compared with this here.

Q. You went all over the city?

A. Yes sir, for thirty years.

Q. You immediately, upon making this scale map had paddled all over the city to see whether there had been any change in any locality that you had not, prior to that, visited recently?

A. My work has been most continuous for the last thirty years; it was throughout the city, so I was then more intimate with the condition of the streets and improvements then I am today.

Q. From Carrollton to the barracks?

A. Yes sir, and from the river to the lake.

636 Q. What would you call densely built up; how many houses to the block?

A. I call densely built up such a section as we are in at present.

Q. Yes, but how did you scale down then to those not as dense; how do you fix the degrees of density.

A. I said before that I didn't make any distinction between the dense, the very dense or the less dense populated portions; I just took in the populated, improved portion of the city of New Orleans.

Q. If you had taken in then, a street that had extended out, we will say from the built-up portion four or five blocks, and had a house on the block; you would call that populated in some way, wouldn't you, dense or otherwise.

A. There's some blocks in the rear of the city have only one house, some two, some none at all.

Q. Were they concluded in your estimate?

A. Everything is concluded.

Mr. FORMAN:

Q. Some blocks on St. Charles avenue have only one house?

A. Yes sir.

Q. As for instance, Hernsheims?

A. Yes sir.

A. C. BELL, recalled.

By Mr. FORMAN:

Q. You told me just now that you wished to correct your testimony in some particular. Will you state what.

A. The testimony I would like to correct is in regard to elevation of the tank that would be used in the new central fire-alarm station on the roof of the city hall. If I remember my testimony I said that that would be seventy feet; I have ascertained that I was in error, it should be (83) eighty-three feet abo-e the yard of the city hall.

Q. Will you look at these blue prints and state whether, or not, they are copies of maps in your office?

637 A. Yes sir, those are maps that I had compiled showing the location of the water mains also the fire-wells and fire-plugs in the city of New Orleans.

Q. There are six of them I believe?

A. I don't think this has been kept up to date, but I think it is up to 1898.

Q. These are up to 1898?

A. 1898.

Q. White lines, or dots show the site of water pipes?

A. Yes sir, show the lines of water pipes and locations of wells and plu-s, as well as it can be shown on a map of this scale.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence the blue print referred to.

A. It should embrace the entire territory on the left bank of the river.

By Judge BECKWITH:

Q. These are blue prints from some original; where is the original?

A. The original is in my office.

Q. When was it made?

A. That was made in 1898.

Q. From what data.

A. Wholly from the water works company; I had a man there for weeks going through the data of the water works company, and compiling it.

Q. Up to what date do this series of maps go?

A. 1898.

Q. What time in 1898?

A. I couldn't state, sir; I presume there is not much change in our lengths of mains, and so on, because you take my figures 121.7 miles and we will get the amount of miles of mains laid up to 1898, and take the water-works report of April 1897 and they give 123.70 miles, only about two miles of mains laid in that time.

638 Q. Yes, it may be correct in that respect and be incorrect as to location of hydrants, and fire-wells; your data for the location of hydrants, and fire-wells exists as correctly in the city records as it does in the water-works records, does it not?

A. There have been no extensive changes, Judge Beckwith in the fire-hydrants; I know that the committee on fire and lighting has in contemplation extensive changes in the fire-hydrants, but from my recollection of the council proceedings, I do not think those changes have been made yet.

Q. These six maps, as I understand you are mains necessary to cover the area——

A. It covers the entire area that is covered by mains of the water works company on the left bank of the river.

Q. You spoke in reference to the tank or proposed tank on the city hall, do you know what its height is in reference to what is known as the Cairo datum.

A. No sir, I can ascertain that for you, if you desire it.

Q. Do you know the relation of the crown of the levee at the head of Canal street, at the river end of Canal stree-, and the Cario datum.

Q. If you will allow me to refer to that drainage map I can give it to you.

A. I have no objection.

A. It is somewhere in the neighborhood of 37 feet.

Q. Thirty-seven feet above, or below that datum?

A. Above.

Q. Do you know what relation the average surface of the water at the head of the Passes at the mouth of the river—Mississippi river, holds to that same Cairo datum.

Q. If you mean by that question the average surface of the water, you mean, mean Gulf level; I will answer your question that it is 21.26 above Cario datum.

Q. That is at the mouth of the river.

639 A. That is at the mouth of the river, if you mean by your question mean Gulf level the average surface Gulf level, that is 21.26 above Cairo datum.

Q. Do you know what the average level of the water of the Mississippi river, or I will say low water of the Mississippi river, how much is that above Cairo datum?

A. Well, I have had occasion to investigate that at one time, and the lowest water I remember finding was one foot below mean Gulf level, and it would have been 1.53 on the Canal Street gauge; that is my recollection of my investigation.

Q. That would give it what relation to the Cairo datum?

A. What relation would that be?

Q. Yes.

A. That would be 19.63 above Cairo datum.

Q. You have given us the high-water gauge; giving the relation to the crown of the levee, because high water comes pretty well up to it, does it not?

A. I am giving this reply entirely from memory. The high water of 1897 was up, I think I am very close to it, 38.23; we will put the high water of 1897, which is the highest water we have had above Cairo datum.

Q. Above Cairo datum?

A. Yes sir, so that—I see that I am in error as regards the height of the levee, because the levee must be two feet above that level. In other words that levee must be somewhere in the neighborhood of 39 or 40 feet above Cairo datum.

Q. Do you remember how much the Cairo datum level falls below the actual surface level at Cairo?

A. No sir, I am not familiar with Cairo and its vicinity.

Q. It is an arbitrary line to which all surveys on the river refer.

A. I would state that Cairo datum is;—my recollection of what Cairo datum is, that it is the zero on the Cairo gauge; that is used as a basis of all the Mississippi River commissions work. Now what

relation that bears to the elevation of Cairo or its surround-
640 ings I am unable to give you.

Q. Is the datum line usually taken arbitrarily above or below the plane—taken arbitrarily above or below the surface to be surveyed, so that reference can be made to it?

Q. Well, now if you put that question I am in error with regard to my statement; it is so many feet, I cannot give you the number of feet, below the *the* level of the Cairo gauge. Those are all matters of detail that don't remain with a man very long; it is so many feet below the zero of the Cairo gauge.

Q. I don't remember it myself, although I have seen it so many times?

A. Yes sir.

J. BALTAR, sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. What is your business?

A. Saloon business, sir.

Q. Where?

A. On Poydras street, 333 Poydras street.

Q. Have you been using the water of the water works company?

A. Yes sir.

Q. For how long?

A. About six years.

Q. What facilities have you had?

A. I have six faucets.

Q. You have a meter?

A. Yes sir I have had a meter for about five years; the first year I had the place the parties that were in there had paid the water works already; they had already paid when I bought the place, and when I went into the next year I had to put in a meter, the works called on me to put in a meter.

Q. Have you got the receipts?

A. No sir.

Q. Where are they?

A. I didn't keep the receipts.

641 Q. How much have you been paying per thousand?

A. Thirty cents.

Q. Thirty cents per thousand gallons?

A. Yes sir.

Q. Do you know how many gallons are calculated on your receipts to the cubic foot?

A. How many gallons to the cubic foot?

Q. Yes, whether 7, or eight or ten?

A. I had an old meter, the first meter I had in calculated 12; I am almost positive, and they called one me four or five months ago to put in a meter they counted eight, I think, eight gallons.

Q. What were you paying before you got the meter?

A. The parties that had the place before m[illegible]id fifty dollars, I think.

Q. Fifty dollars a year?

A. Yes sir, but they didn't have as many faucets as I have.

Q. What do your bills amount to during the year?

A. On an average forty, thirty-six to forty; about three dollars and something a month.

Q. So with the increased use of water you are paying less with a meter than you paid before?

A. No sir, there is no increased use in the water, for I have not used it for any purpose except washing the yard; I don't use it for glass-washing purposes, because the water is too bad, and I don't wash glasses with it.

Q. But you have an increased number of faucets?

A. Yes sir.

Q. An increased number of outlets?

A. Yes sir; the party before that put only one faucet in the kitchen, but I have a hot-water boiler on and use two faucets for hot water and two for cold.

Cross-examination by Judge BECKWITH:

Q. You keep a bar-room?

642 A. Saloon, yes sir.

Q. Who do you know what parties did prior to your occupancy?

A. I was told so when I was buying it.

Q. You don't know?

A. Know, I don't know positively; told me so; I never saw the receipts.

Q. With a meter you are pretty careful not to let any of the water run away, are you not?

A. Go to waste, yes sir.

Q. How do you know the amount of your bills and the number of gallons that you use; only by memory?

A. That is all.

Q. It may, or may not be correct?

A. Might not be; I am almost positive that I paid that amount.

A. P. MARMOUGET, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are a member of the city council?

A. Yes sir.

Q. From the ninth ward?

A. Yes sir.

Q. Is your ward thickly populated?

A. Well, the upper portion of the ward is.

Q. What is the water supply; what have you to say as to the sufficiency of the water supply in the extinguishment of fires, and supplying people with water?

A. I don't know that I am sufficiently familiar with the condi-

tion we have the water works in the upper portion of the ward, you might say in that section between Lafayette and Louisa street, below that we have no water works.

Q. Have none at all?

A. No sir, that is below Piety. It extends one square below Louisa to Piety; below that I don't know of any mains at all.

Q. Do you use the water at all?

643 A. No sir.

No cross-examination.

J. U. ADAMS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep a hat store, I believe, on St. Charles street?

A. Yes sir; St. Charles street.

Q. Do you use the water of the water works Co.

A. I do.

Q. How long have you used it?

A. I think about twenty years.

Q. What have been your facilities for using water?

A. One opening and sometimes connected with the urinal; at one time had a bath upstairs.

Q. When you had one opening, what was your rate?

A. I have lost the receipts; or rather I have destroyed them, but I think at that time it was $12, for one opening.

Q. When you had the bath, how much was it?

A. The bath was six dollars additional, the urinal three dollars.

Cross-examination by Judge BECKWITH:

Q. What time did you put in the bath and urinal—what year?

A. The bath was put in by a tenant whom I had in the upper part of the building; he paid separately for the water; though it was billed to me; and the extra charge of six dollars was paid by him.

Q. You didn't pay that at all?

A. Well, I paid it but he reimbursed me.

Q. How many urinals are there.

A. One outlet in the store, the rear of the store;——

Q. There are two around there in the building?

A. I think not; I don't know whether there is one upstairs or not the extra charge for the connection of the upper portion was six dollars.

Q. You don't use it at your house.

A. I used to, I have broken up housekeeping.

644 Q. When you did use it at your house what facilities did you have?

A. I had then, I think, two openings and the bath.

Q. How much did you pay then?

A. If my memory serves me I think it was $18, or 21; I am sure.
Q. Have you no positive recollection about it?
A. About the residence?
Q. Yes.
A. No sir, I have not, sir.
Q. Do you know whether you had a yard hydrant or not?
A. Just previous to breaking up housekeeping I had two open for which I paid $18, or $15.00, somewheres about $18. or $15.

645 J. P. DOMINICK, being first duly sworn, as a witness on half of the plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. What is your business?
A. Saloon-keeper.
Q. Where?
A. No. 413 St. Charles street.
Q. Have you been using the water of the water works compa
A. Yes, sir; but it is not in my name.
Q. Sir?
A. I use water, but it is not in my name.
Q. What facilities have you?
A. I have, or did have, one faucet, a bar pipe, and a urinal.
Q. How much was paid for it?
A. I paid for the water.
Q. How much was paid?
A. But it was used more—that is, what I use myself now stairs, I believe, there is, but I am not positive, but I think the one faucet and two urinals; the landlord pays half, and I pay
Q. How much do you pay?
A. We have been paying forty dollars a year.
Q. Both of you, together?
A. Yes, sir.
Q. Your share was twenty dollars?
A. Yes, sir; my share was half.
Q. And that was for what he had, and what you had
646 A. Yes, sir.

Cross-examination.

By Mr. BECKWITH:

Q. Who did you represent; what was his name?
A. Sir?
Q. I say, in whose name was this water taken?
A. In Mr. Helm's; Fred Helm, the landlord.
Q. Where is your house?
A. 411–413 St. Charles street. His number goes by 411, and goes by 413, but it is one house.

Q. It is the new number?
A. Yes sir.
Q. Is it a dwelling-house, or boarding-house, or what?
A. It is a lodging-house upstairs.
Q. When did you pay this—prior to 1899—what years?
A. We paid forty dollars up to the latter part of 1896, and then they raised us to sixty dollars, and the following year, they wanted to raise it to seventy; so then we got a water metre?
Q. How long since you have been taking water by metre?
A. I think since the latter part of 1897.
Q. And then when you say your bills—those were metre?
A. Yes, sir; the latter part.
Q. When you paid twenty dollars?
A. The half—I paid half.
Q. Did you run that same thing every year?
A. How is that?
Q. Did it run the same amount every year?
A. Me, I know I paid by what the metre reads.
647 Q. Do you know what you paid, per thousand gallons?
A. Witness produces bills.

Counsel for plaintiff, offers, produces and asks to be filed in evidence nineteen (19) receipts produced by the witness.

By Judge BECKWITH:

Q. That place is known as Fred's house, is it not?
A. The upstairs.
Q. There is a bar-room downstairs?
A. I own the bar-room.
Q. You own the bar-room, and half the house?
A. Yes, sir, the lower part.
Q. Since you have had the metre there, you have been very careful not to let any water run away, haven't you?
A. Yes, sir, I have been very careful.

EMILE HOFFMAN, sworn as a witness on behalf of the plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. Your business?
A. Saloon.
Q. Where?
A. 121 Decatur street.
Q. Do you use the water of the water works company?
A. Yes, sir.
Q. Have you a metre?
648 A. No, sir.
Q. Previous to January, 1899, what had been your facilities?

A. We have four openings.
Q. What have you been paying?
A. Fifty dollars.
Q. Fifty dollars a year?
A. Yes, sir.
Q. For how long?
A. Since 1893.
Q. Paid no other rate than fifty dollars?
A. Up to 1893.
Q. That is from 1893—January?
A. Yes, sir.
Q. Since 1893, you mean?
A. From 1878 to 1893.
Q. From 1878 to 1893, you paid how much?
A. Fifty dollars.
Q. And since 1893?
A. Sixty-five dollars.
Q. Same facilities for getting water all the time?
A. Yes, sir.

Cross-examination.

By Judge BECKWITH:

Q. Where is your place?
A. 121 Decatur street.
Q. Old number 13?
A. Yes, sir.
Q. Keep a bar-room and boarding-house, don't you?
A. No, sir; saloon.
Q. What urinals have you got there?
A. One urinal.
649 Q. Perforated pipe, or basin?
A. One wash-basin, and one sink, and one glass wash-stand.
Q. Will you describe the urinal; is it a bowl urinal, or perforated pipe?
A. It is a perforated pipe.
Q. How long is it perforated; how much in length is it?
A. About three feet.
Q. Is it not six feet?
A. Well, I couldn't say.
Q. That runs all the time?
A. Well, no; not all the time.
Q. When does it stop running?
A. Well, sometimes we don't run it at all.
Q. Haven't the inspectors of the water works been there to your place, and complained, repeatedly, of the waste of water, and the extra flow of water?
A. Well, maybe once or twice, yes.
Q. You were allowing the vessels to run, were you not?
A. Yes, sir; sometimes.

Q. You take water for glass washing from the hydrant, don't you?

A. Yes, from the hydrant, but for cooking purposes we use cistern water; we have a large cistern there.

Q. Well, what do you call a large cistern?

A. About twenty-five hundred gallons.

Q. Wouldn't last you long for washing if it didn't run, would it?

A. Well, I don't know; it lasted pretty long; we always had water in it; always used it.

Q. Got water in it now?

A. Yes.

650 Q. Had water in all of this drought?

A. Yes, sir.

Q. Where did it come from?

A. Where did it come from?

Q. Yes?

A. Came from above, I suppose.

Dr. LUTHER SEXTON, sworn as a witness on behalf of plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. You are a practicing physician?

A. Yes, sir; I have a call occasionally.

Q. How long have you been practicing medicine?

A. I graduated in 1881.

Q. Been practicing ever since?

A. Yes, sir.

Q. You were, not long ago, a member of the board of health, I believe?

A. Yes, sir.

Q. Have you considered the condition of the Mississippi River water, as furnished unfiltered through the hydrants, in its relation to human health?

A. Well, I have, as a matter of course, looked into the water supply of people upon whom I practice.

Q. What do you have to say, sir, as to the wholesomeness of the Mississippi River water, as furnished by the New Orleans Water Works Company through the hydrants?

A. Well, the muddy water, I don't think is wholesome.

Q. Sir?

651 A. I say, the muddy water, as it comes from the hydrant, I don't think wholesome.

Q. How does it affect people?

A. Well, the foreign substances that would be in the water—the sand—or the silt, would naturally make the bowels looser as any other foreign substance would outside of any ingredient which it might have in the water; besides, the sand, and silt, and mud, I

think if they are properly settled, that, perhaps, the diarrhœas or dysenteries, which we sometimes think attributable to the water, would be largely eradicated.

Q. Has it been your experience that the use of this muddy water induces dysentery and diarrhœa?

A. I think so, sir.

Q. What is your view as to septic diseases?

A. Well, typhoid fever might be produced by impure drinking water.

Q. Has there been historically any increase of typhoid fever in recent years compared to previous years?

A. What is the question, ple-se?

Q. Whether, as a historical fact, there has been more typhoid fever in recent years in New Orleans than previous years?

A. Yes; I think so, but I don't think it is entirely attributable to the river water. I think cistern water would be capable of producing typhoid fever, as well as river water. I am entirely impartial in any answer, or any idea I could have in this matter.

Q. I want to know exactly what you——

A. I think the cistern waters that are next to these privy vaults and absorb all these gases from privies and cesspools, dialyzed fœcal matter, would be just as likely to produce typhoid fever as river water; so if I had a case of typhoid fever, personally I could not say whether it came from river water, or cistern water,
652 because the two supplies may be in the same family, but I think it a possibility that either could do it.

Q. Typhoid fever is a germ disease?

A. Yes sir.

Q. Produced in the intestines, is it not?

A. Yes; supposed to be a germ disease, that affects the Parr's glands, or Parr's passages in the intestines, causing ulceration.

Q. Usually introduced through the mouth?

A. Yes, sir; and three-quarters of it, perhaps, through drinking water.

Q. It has been in evidence here today that there are a large number of sewers draining the Charity hospital, and other institutions into the Mississippi river in a condition where the blue Gulf waters — present in the Mississippi river from a low condition of the river, and, perhaps, northeastern winds, and the rise of the tides: What would you say as to the probability of poisons, either a specific typhoid fever poison or of albumenoid ammonia being driven up the river so as to produce disease?

A. I don't think the in-take pipe of the water works is far enough up. Perhaps, many years ago, before the city had built uptown, that might have been a proper place for it; but I don't think water for consumption by men, particularly, should be taken from near the bank; I think it should be taken from out in the middle of the stream, and I think the in-take pipe ought to be above Southport; that is my observation from a sanitary point of view, and I think that the water is purer out in the middle of the stream than it is

along the bank, in the eddies, and along the levees, and naturally near the bank there are so many people living along the river, and so many of them crawl up under the wharves there and
653 make an ordinary necessary out of the river, that the majority of that fœcal matter is confined to water nearer the shore, and I think water taken out in the middle of the stream would be very much purer, and very much better than water taken close to the shore.

Q. Do you know anything about sewer pipes from the marine hospital entering the river about State street?

A. From my personal knowledge, I do not. I understand that such a main exists, however, but I never saw it.

Cross-examination.

By Judge BECKWITH:

Q. Just exactly, what is dysentery in its manifestations of the disease?

A. Well, sir, it is a too frequent discharge from the bowels, and the discharges are mixed with mucus—blood, a septic material.

Q. Yes; but the discharge is not the dysentery. The disease is what I am asking for?

A. What is the question; I will try and answer it.

Q. Just, exactly, what is dysentery in its manifestations of the disease?

A. Well, the manifestations of dysentery would be a too frequent discharge of bloody stools.

Q. What is it as a lesion?

A. What is the lesion?

Q. Yes?

A. It is an inflammation—violent inflammation of the bowels.

Q. How would that be produced by sedentary matter in the water where it was a silicate of soda, silex and kaolin?

A. Well, any foreign matter that would be in water would increase its purgative power, and then if there was any poison,
654 or any germ in the water, that would increase this irritation, or was close to germ life, why the bacteria which might exist in the bowels would be increased in number, and aggravate the inflammation outside of the sand, or silt or dirt which might be taken in if the water was unfiltered.

Q. Haven't you, doctors, come to the conclusion that the germ of dysentery is a bacillus or disease germ of some sort or organism?

A. Yes, sir.

Q. Well, it is not made of clay, sand, nor kaolin, is it?

A. No, sir, it is not either of those ingredients, though that germ that infests the bowels would develop and grow very nicely in nitrogenous matter that would be found in bad river water; they approach very nearly to bacterial life.

Q. We will come to that by and by. As to the typhus, and typhoid forms of fever, are not you, in your profession, now about

equally certain that the transmission of that disease is through the agency of an existing microbe?

A. Yes, sir.

Q. Well, then, water, in order to convey that disease, must carry the microbe?

A. Substantially so, or infinitesimal portions of fœcal matter which would probably contain it.

Q. Large masses of fœcal matter may exist without the bacilli necessary to cause typhoid or typhus fever, may it not?

A. That is true.

Q. Did you ever see the typhoid bacillus?

A. No, sir; I am not a bacteriologist.

Q. Did you ever see anybody that you believed had seen it?

A. The pathologists say they have found it.

Q. In what culture do they claim to propagate and grow that particular germ?

655 A. Well, in a meat broth or bouillon or potato.

Q. Have you ever been under the wharves in the city of New Orleans?

A. No, sir, and I hope not to go under them either.

Q. You never used them as a necessary yourself?

A. No, sir; not recently.

Q. Is it a conjecture, or the probable convenience, and clandestine character of the resort that makes you believe that they are used as necessaries, or why do you say so?

A. Well, I see parties in bathing in the river, and I have seen parties in the act of defecation on ships close to the shore, and I don't think you doubt in your own mind that such is a fact?

Q. Well, I am very skeptical about a good many things?

A. Particularly the doctors?

Q. Yes. How long have you been in the city of New Orleans?

A. Well, I think I have the cuckle-burs and dust of Mississippi out of my hair, with all due respect to the court. I have been here many years. I have been in the Charity hospital four years, three years as a student, and one year as resident physician, and then I have been practicing in the city. I have been professor of surgery, in the Tulane University since 1891; that would be nine years, and four years would be thirteen years.

Q. At the time you graduated here, you went back to Mississippi, didn't you, and stayed there until 1891?

A. Yes, sir, until 1890; I came here in 1891.

Q. When did you commence the hygienic and hydrographic investigation of the Mississippi river?

A. Well, I haven't made any particular hydrographic investigation of it, Judge.

Q. When did you undertake to study its eddies and currents, and stratification of good and bad water?

656 A. Well, I have, as a matter of course, when I was a student. The question of water is always lectured on by the professors, and when I was in the Charity hospital as a student, I

learned all I could about the water, and when I grew older in the practice, that was one of the prominent things always to be kept posted on.

Q. Haven't you often tried to unlearn a good many things those professors told you?

A. I would not like to go back on my professors.

Q. Don't you like to keep up with your profession?

A. I try to, in an humble way.

Q. Do you know anything about the eddies that exist between Southport and the barracks?

A. Well, I can tell you all I know about them in a very few minutes or sentences. I have noticed, in crossing the river at Canal street on the ferry there that in next to the shore particles of debris, wood &c. will float upstream. I think that condition would begin, or I have understood that it begins (I have never understood it particularly or carefully as you have, because that is your business) I think they begin down by Barracks street somewhere when the water is very low, and extend up as far as the Texas and Pacific landing. I have heard that that is the extent, or about as far as they extend, and on the opposite side of the river, from Morgan's landing up to where the ferry lands on Canal street.

Q. Are there not several eddies in the Mississippi river along the river front that take the water from the middle of the river where the current is marked and perceptible—clear from the middle of the river?

A. Yes, such conditions exist.

Q. Just how, in an engineering way, without obstructing navigation, and getting into trouble with the United States authori-
657 ties would you take water and carry an in-take pipe of the water works out into the middle of the river to get water?

A. Well, I don't know whether I could answer that from an engineering standpoint, Judge, but it would occur to me that a pipe might be extended out to the buoy, in the middle of the river, and vessels might be deflected by this pipe, and from this pipe. Above all things, we ought to have pure water. Now, as an engineering proposition, or as a chemist, and I don't make any profession that way; but I really think the water is very much purer in the middle of the stream.

Q. And you think people who drink the water, and take it from the middle of the stream, as a great many do, who live on it, would be better, and be less subject to disease than those who take it from near the shore; a great many generations have lived and got along very well with it?

A. That is a fact; but you can take morphine as a poison, and increase it until you can dish it out by the handful.

Q. You were asked by Mr. Forman, about albumenoid ammonia; what kind of ammonia is that?

A. Well, that would be the decomposition of albumental substances.

Q. Ammonia, is ammonia always, isn't it?

A. Yes, sir.

Q. Well, suppose that I was your patient, and brought you water from the Mississippi river, or anywhere, and asked you to determine whether there was albumenoid bacteria, in the shape of dysentery, or in the shape of typhoid and typhus fever in it, how would you solve that question for me?

A. Well, I would not like for you to be sick at the time, Judge, and I would not pretend to solve the chemistry of it myself. I should go down to the pathologist, and I think you are about
658 as well up on the chemistry of the water as any one; I might ask you.

Q. Suppose you suspected albumen, or suspected ammonia, how would you detect those—an easy way to do it?

A. Well, permanganate of potash would be one, and this Nestler test would be another; but this abstruse part of chemistry I don't know; I am not an analytic chemist, and to make a test, I would apply to a specialist in that line.

Q. When you speak of water having bad qualities, how do you speak of it?

A. From what I have heard, and read, and learned.

Q. And conjecture?

A. Yes.

Q. Do you know how large a size of an organism the bacillus supposed to convey dysentery, and create typhus and typhoid is in dimension?

A. They are very small, indeed; a good many of them can march through a filter pore.

Q. That is what I want to get at; filtering wouldn't catch them?

A. No, sir; it would not. It would have to be filtered and boiled too. In fact, Judge, I have never drunk either cistern or river water, in New Orleans. I buy all the water I drink; every particle of it, and have always.

Q. Do you buy the distilled water?

A. No, sir; I don't. I buy water out of the State, and I swap from one spring to another.

Q. If you buy the distilled water you are cautious in trying to escape ammonia?

A. No, sir, I don't buy the distilled water.

By Mr. FORMAN:

Q. Do you know anything about people working for the
659 American sugar refinery, who use, habitually, river water, and what the effect is on their health?

A. I only know that through hearsay, from Dr. Metz. I am not the doctor for the sugar refinery, but I have had one patient—the engineer of the sugar refinery—a man by the name of Hall, who had a very bad diarrhœa and dysentery, which I finally succeeded in controlling; I had him change or boil the water he drank; he drank river water when he was down there, and drank cistern water when he was at home, and I think cistern water is

about as bad as the other. I have heard of epidemics of diarrhœa and dysentery among people who work at the sugar refinery, and who drank the water as it came out of the river, but of personal knowledge, I don't know anything about that.

TONY PARKER, being first duly sworn as a witness on behalf of the plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. What is your occupation?
A. Saloon business.
Q. Where?
A. 138 Exchange alley.
660 Q. Previous to the present year, have you been using the water of the New Orleans Water Works Company?
A. Yes, sir.
Q. What have been your facilities; how many openings?
A. Two openings.
Q. How much have you been paying before the present year?
A. The landlord always paid it; we pay half, and he pays half.
Q. How much has been paid?
A. Thirty dollars.
Q. All the time? Never was more or less?
A. Five years; I have the receipts.
Q. Never was more or less?
A. No, sir.
Q. You just had two openings—one hydrant and a faucet?
A. Yes, sir.
Q. And you paid thirty dollars?
A. Thirty dollars.

Cross-examination.

By Judge BECKWITH:

Q. Your place is at the corner of Exchange alley and Custom-house?
A. Yes, sir.
Q. There is a faucet in the back yard?
A. Yes, sir.
Q. You have got a faucet upstairs.
A. One upstairs, too.
Q. And you have got a bar-room?
A. Yes, sir.
Q. Your family lives upstairs, don't it?
A. Only a lady; there is only one.

661 Counsel offers, produces and asks to be filed in evidence the four receipts produced by the witness.

JAMES KEAVENEY, being first duly sworn, as a witness on behalf of plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. What is your occupation?
A. President of the City Bottling Company.
Q. Have you, previous to the present year, been using the water of the water works company?
A. Yes, sir.
Q. How long?
A. I have been using it for three years. I have been only president of the company for three years.
Q. How long has your bottling company been using it?
A. About twelve years.
Q. What facilities have you had—what openings?
A. We had about nine.
Q. How much have you been paying.
A. One hundred and fifty dollars.
Q. Have you ever had a metre?
A. No, sir.
Q. Have you got any receipts?
662 A. I have there; I had a metre; not in that part I didn't have no metre; I had a metre on Bienville street "New Hope."
Q. Have you got your receipts?
A. I have got a few of them; got about ten or nine of them, I believe.
Q. I notice this receipt of October 1st 1891, was for eighty dollars?
A. Yes, sir; that is the old firm.
Q. Which was the same establishment?
A. No sir; there is a stock company now, at the present time.
Q. I know, but what I mean to say is——
A. Yes, in the same building.
Q. Same building; same business?
A. Yes, sir.
Q. Your bill for October 1st 1892, was for one hundred and sixty dollars; what was your supply of water. How was your supply of water increased, if at all, from 1891 to 1892?
A. It wasn't any increase.
Q. It wasn't increased?
A. No; not that I know of.
Q. Has your supply of water been increased at any time since 1892?
A. No, sir.
Q. It has been the same all along as it was in 1891?
A. Same all along. You see these faucets, so many of them, for them cisterns—I have filled them all; I have those cisterns filled there every day and cleared, and that is what makes so many faucets.

Q. The old number was 67 & 71 South Rampart street?
A. Yes, sir.
Q. And the new 322?
A. 323.
663 Q. Same supply of water, in same premises?
A. Yes, sir.

Counsel offers, produces, and asks to be filed in evidence the receipts produced by the witness.

By Mr. FORMAN:

Q. You ran this water into cisterns?
A. Yes, sir.
Q. Was the water ever used without settling?
A. No, sir; not for the use I used it for.
Q. What did you use it for?
A. Seltzer water and mineral water; it would not be clear enough; they would not drink it.
Q. Did you use the water at any other place?
A. No, sir.
Q. Did you say you had some at Bienville street?
A. That was another firm—the New Hope Seltzer Water Company; I had a metre there.

By Mr. BECKWITH:

Q. That was a corporation?
A. Yes, sir; the New Hope Company; I was president.

By Mr. FORMAN:

Q. How much, per thousand, did you pay for the metre at that place?
A. I don't know; I don't remember.
Q. You haven't got the receipts, have you?
A. No, sir; the company is defunct, and I have not got a receipt.

Cross-examination.

By Judge BECKWITH:

Q. When did you commence your business—the City Bottling Company, Limited, at the present place?
664 A. March, 1892. No, I didn't commence there; I didn't belong to the company at that time.
Q. How long have you known anything about it?
A. Three years, I have been president of the company. Prior to the company being organized, I was president of the Keaveny-Buckley Company.
Q. What form of soda water do you make—the syphon?
A. Syphons and mineral waters of all kinds; ginger ale, and sarsaparilla and all kinds.
Q. Have you always done precisely the same kind of business, every year?

A. Oh, no! not by a long ways—a good deal of difference.

Q. When you answered that you had the same business, you didn't mean to say that you used the same amount of water every year?

A. No, I couldn't say that; no.

Q. How many horses and wagons, have you got there?

A. On an average, I have got about fourteen; sometimes I have sixteen; other times I have thirteen.

Q. It changes and varies?

A. Yes, sir.

Q. So it did with the concern that preceded you—you don't know anything about that?

A. No, sir; I couldn't say exactly about that.

Q. You make all the water you can sell, and sell all you can, don't you?

A. Yes, sir.

Q. Now, wasn't there some talk about your putting a metre in there?

A. The agent from the company asked me twice to put a metre in last year, and the year before he wanted to put a metre in; I was growling about paying so much for water, and he told me that if I didn't like it, to buy a metre.

665 Q. And you preferred to take the rate that they made you rather than to put a metre in?

A. Yes, sir.

By Mr. FORMAN:

Q. Did you use any more water the year your rate was raised from eighty to one hundred and sixty dollars, than you did the year before?

A. No, sir, I did not.

By Mr. BECKWITH:

Q. What do you mean—that you didn't put out any more, or that you put out the same amount of ginger ale and mineral water?

A. No, sir; I could not say that I did or not now without I refer to the books, but it was about the same business.

Q. You mean about the same number of openings?

A. About the same business—same ratio of sales pretty near—maybe more one year than another.

Q. You could not tell without looking at your books. You could not tell how many gallons of ginger ale, or water you put out every year?

A. I will tell you once in awhile a little rush would come in, it would cost me a couple of dollars a month to get it out—a little rush used to come in, and it would cost me about two dollars and two and a half to get it out.

666 THOMAS E. LYNCH, being first duly sworn as a witness on behalf of the plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. What is your occupation?
A. Undertaker, and carriages to hire.
Q. Do you use the water of the water works company?
A. Yes, sir.
Q. At how many places?
A. I use it at my residence, and also at my stable—for a different service though.
Q. What was your water-supply service at the stable?
A. I have but one hydrant, one opening.
Q. How many carriages and horses?
A. The carriages, horses and wagons, is, twelve; eleven head of horses.
Q. Is the water that comes from the hydrant good for washing carriages?
A. We have to use rain water afterwards, after we get the first mud off.
Q. Have you got any receipts?
A. Yes. We always chamois them off with rain water. There is the receipt there for the stable.
Q. You pay at your undertaking establishment, how much?
A. Fifty dollars.
Q. What facilities have you at your house?
A. Just for the bath; nothing else.
Q. How much do you pay there?
A. Twelve dollars.
Q. Just one opening at the house?
667 A. That is all, sir.
Q. I notice on your receipts a family at both places—have you got two families?
A. No, sir. I have complained about it, and it did not make any difference. The inspectors came up there, and I told them that I had but one family, and they charged me for two.

Counsel offers, produces, and asks to be filed in evidence the five receipts produced by the witness.

Cross-examination.

By Judge BE'KWITH:

Q. How many employees did you have about your undertaking establishment?
A. Six.
Q. Your horses remain the same in number for two or three years?

A. No, sir; now I have only got ten. The receipt I paid for this year was eleven. I have lost a horse since.

Q. This undertaking establishment of yours is kept open night and day, *isn't it; you have two sets of men there*?

A. No; we don't keep it open unless we have drivers out—drivers out on carriages come in at all hours during the winter.

Q. It is a twenty-hour service, very near, isn't it?

A. Certainly, they are out sometimes all night.

Q. Do any of your drivers stay there all night?

A. No, sir; nobody lives at the stable.

By Mr. McCaleb:

Q. Does anybody stay there?

A. We put a watchman there at night, but there is no one sleeps there?

668 Q. You have a paid watchman?

A. Yes, sir; a paid watchman, that stays up all night.

Charles Holloway, being first duly sworn, as a witness on behalf of the plaintiff, deposes and says:

Direct examination.

By Mr. McCaleb:

Q. What is your business?

A. Commission merchant.

Q. Where?

A. 513 Poydras street.

Q. Do you use the water of the water works company?

A. We do not there, no, sir.

Q. Do you, at your house?

A. We do, at 424 Common street.

Q. For how long?

A. I think for about four years—three or four years.

Q. What facilities do you have there?

A. We had one faucet.

Q. What do you pay?

A. Twelve dollars a year.

Q. Use it at your residence?

A. No, sir,

Cross-examination.

By Judge Beckwith:

Q. What is your business; what business do you carry on there?

669 A. Commission business—produce business.

Q. Poultry store, isn't it?

A. Yes, sir.

W. G. TEBAULT, being first duly sworn as a witness on behalf of plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. You keep a furniture store on Royal street?
A. Yes, sir.
Q. How long have you been using the water of the New Orleans Water Works Company?
A. Didn't use any water at the store; have cisterns.
Q. Use any at your house?
A. Yes, sir.
Q. Where?
A. Corner Canal and Rampart streets.
Q. What facilities have you?
A. Well, we have a bath, though we seldom use it; we could use the bath; a water-closet, a garden and an ordinary hydrant.
Q. Have you got a stable?
A. Not at my house. I have a stable that is distinct from the house altogether.
Q. What have you been paying?
A. Twenty dollars.
Q. For how long?
A. Mrs. Henderson used to live there, and she paid for it, and I have always continued to pay the same amount for ten or
670 eleven years *years*.
Q. You have got water at your stable?
A. I have.
Q. How many horses do you keep?
A. I am charged for twelve horses.
Q. How many have you?
A. Well, I have sometimes twelve; sometimes I have less. I have a great number of horses, but I do not keep them at the stable. I have several places. You know I am allowed to keep twelve horses.
Q. At the stable where you use the water of the water works company?
A. I am supposed to have twelve horses; have charged me for twelve horses; the company inspects my stable, counts the stock &c., and charge me accordingly; they charge me for twelve horses.
Q. How much do you pay?
A. I pay thirty dollars.

Cross-examination.

By Judge BECKWITH:

Q. Where is your stable?
A. It is on Howard street near Tulane.
Q. What number?

A. I don't remember the number; I don't think it has got any number.

Q. How many wagons, carts and vehicles?

A. I have got a good number of wagons, but I don't keep all of my wagons at my stables.

Q. How many do you keep there?

A. I, usually, have about two or three. I have never complained about the bill to anybody; if I thought it was excessive, I would put a cistern there. They attempted to charge me at the store and I put a cistern there. If I thought the water works com-
671 pany was overcharging me, I would put cisterns there pretty quick; I would not pay for the water.

By Mr. FORMAN:

Q. You never had it at the store?

A. I cannot recall. I have been in my store—I have been in business for a number of years—nearly twenty-one years; I have an idea I did have it, and I think they wanted to charge me too much, and I put a cistern of fifteen hundred gallons and that has been all the water I need there.

J. B. MUELLER, being first duly sworn as a witness on behalf of plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. Your occupation?

A. Saloon business; bar-room.

Q. Do you use the water of the water works company?

A. Yes, sir.

Q. For how long?

A. Two years.

Q. What openings, or facilities have you for the use of water?

A. One faucet.

Q. How much have you been paying?

A. Eighteen dollars.

672 Cross-examination.

By Mr. BECKWITH:

Q. I could not hear what you said your business was?

A. Bar-room business; saloon.

Q. Where is it?

A. 241 Chartres street.

Q. You say you have only one faucet?

A. Yes, sir.

Q. Where is that faucet that you have there, in the yard?

A. No; it is on the second floor; I cannot use it in the yard; I ain't got no yard.

Q. Do you occupy the balance of the house above your bar-room?
A. Me, and my family, yes.
Q. Your family live there?
A. Yes, sir.
Q. Where did you get the water to wash bottles and water necessary about the bar?
A. Washed them from the same faucet.
Q. And this same faucet supplies your family, and supplies your bar-room?
A. Yes, sir.
Q. And you carry the water, I suppose, to the bar in buckets, to wash?
A. Yes, sir, I do.

GEORGE CRON, being first duly sworn as a witness on behalf of plaintiff, deposes and says,

Direct examination.

By Mr. FORMAN:

Q. You belong to the fire department?
673 A. Yes, sir.
Q. How long?
A. Been connected with the fire department for about twenty-two years.
Q. Can you tell us of any fires previous to January, 1899, at which there was a scarcity of water?
A. Yes, sir; some time in the middle of June, corner Berlin and St. Charles streets we had a fire that we were short of water. I remember that we had difficulty some time in November, on Louisiana avenue between Coliseum and Chestnut streets, I can remember; that is, I have a recollection of.
Q. That you can recollect?
A. That I have a recollection of.

Cross-examination.

By Mr. BECKWITH:

Q. You said something about June.—June, of what year?
A. June, 1892.
Q. Where was the fire? Give us the street and number, and date, if you can?
A. I don't know the date; the fire was at the corner of Berlin and St. Charles.
Q. Was it in the daytime, or night?
A. It was in the nighttime.
Q. What time in the night?
A. About 7 o'clock in the evening.
Q. How many engines were there?
A. Four, to my best recollection.

Q. What engine were you connected with?
A. Eleven.
Q. Where does that belong, when it is at home—where is the house?
674 A. Corner of Pitt and Napoleon avenue.
Q. What hydrant did you hook onto?
A. We hooked right to the plug in front of the fire; right opposite the fire on St. Charles avenue.
Q. You don't know what the main was at that time—what size it was?
A. No, sir, I do not. I remember when it was put down about twelve years ago, but I don't know the size of it.
Q. Small one, wasn't it?
A. I could not say; haven't any idea of the size; I don't know the size of any mains yet there.
Q. How many engines undertook to get water from the main?
A. There was two besides the engine that I was connected with, that was all that could be put on the main.
Q. Did you get water enough?
A. No, sir; we did not. The engineer said he didn't.
Q. What were you doing then—what connection did you have with it?
A. I was foreman, of the engine.
Q. Foreman of another engine?
A. No, sir; foreman of the same engine. The engineer had to leave, and I had charge of the engine for awhile, and they came and shut us down and moved the engine below, and we got a better supply.
Q. You went down below and got a better supply?
A. No, sir, they stopped an engine at the same plug, and we got more water.
Q. The main was not large enough to supply both engines?
A. No, sir.
Q. I am looking for a fireman, and an engineer who knows how much water one of those engines ought to throw?
A. Well, sir, I could not tell you.
Q. In a minute?
A. I could not tell you.

675 A. J. COBURN, being first duly sworn as a witness on behalf of plaintiff, deposes and says.

Direct examination.

By Mr. FORMAN:

Q. You represent the undertaker, McMahon?
A. Yes, sir; I am one of the firm.
Q. Does that firm use the water of the water works company?
A. Yes, sir.
Q. For how long?

A. Been using it for a number of years.
Q. Have you got any receipts?
A. I have no receipt prior to 1899; I looked up a check book of 1898.
Q. What facilities have you?
A. We have two faucets.
Q. How many horses?
A. We had in 1898—we had in 1898 twenty-two horses and fourteen vehicles.
Q. What did you pay?
A. We paid, in 1898, sixty-five dollars.
Q. How much?
A. Sixty-five dollars.
Q. What did you pay for any previous years?
A. We have always been taxed, according to the stock on hand, number of horses, and number of vehicles.
Q. What have you been paying?
A. Sixty-five dollars; we generall- run about the same; this year we are running four horses less and two vehicles less.
Q. You have been paying sixty-five dollars for several years?
A. Yes, sir.
676 Q. And you had about the same number of horses and vehicles?
A. Yes, sir.

Cross-examination.

By Mr. BECKWITH:

Q. I suppose you cannot remember exactly how many horses and carriages you had in 1892–'3–'4–'5 and 6? They varied, didn't they?
A. My father-in-law then was alive and he ran the business himself. It is now run by one of his sons and myself.
Q. When did you commence running it?
A. It was formed into a limited company during my father-in-law's term of life, and when he died, the son succeeded him, and I was made president of the company.
Q. And he died several years ago, didn't he?
A. Yes, sir; six years ago.

EUGENE GAUPP, being first duly sworn as a witness on behalf of the plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. What is your occupation?
A. Baths; Turkish baths; plain baths &c.
Q. You have been using the water of the water works company?
A. Yes, sir.

Q. Have you some receipts with you?

A. I have some from 1892.

Q. You have a metre?

677 A. Yes, sir.

Q. Paying twenty-five cents a thousand gallons?

A. Yes, sir, I did, and it is reduced to twenty cents.

Q. Was there any time when you didn't have a metre?

A. Yes, sir; prior to December 16th, 1892.

Q. What were your facilities then?

A. Facilities then; I will have to study. There was fourteen tubs, and two or three showers, and a boiler connection.

Q. How much did you pay then?

A. I paid in 1889 one hundred dollars.

Q. 1890?

A. One hundred dollars. 1891, I think I paid one hundred and ten. The flat-rate bills, I haven't got. I gave them to an attorney at one time, and he failed to return them.

Q. Do you know how many gallons, to the cubic foot?

A. Well, the supposition is there is seven and one-half to the cubic foot, but the metre deteriorates, and you have to go according to the measurement—by gallon measure sometimes eight; my present metre is in New York; I am supposed to purchase it over again.

Q. How is that?

A. Well, the inspector, Mr. Hands, himself, ordered me to have the metre repaired and requested me to send it to New York to the National Metre Company, 84 and 86 Chambers street; the metre was sent by the steamer Louisiana, and I believe she took fire here, and the metre—whether there is a salvage claim upon it or not, I could not say—but here is a claim of the National Metre Company, received yesterday.

Q. How does your use of water before you had a metre compare with the amount of water consumed since you had it?

A. I don't understand the question.

678 Q. Do you use more water since you had the metre than you did before you had it, or less?

A. Well, possibly, for personal use—I cannot, because I have no control of the patrons at all. There are a various number of people that I have driven away by cautioning not to use too much water. I have in one instance charged a man for seven hundred cubic feet of water for one bath.

Q. Do you charge your customers by the quantity of water?

A. I have cautioned them; I have told them they used too much water, and I could not afford to give a man a bath for twenty-five cents, when he would come there for two or three hours and lay in the tub and have a half-inch bibb and a two-inch faucet running on him; that continual running would amount to something.

Counsel offers and produces, and asks to be filed in evidence the forty-nine receipts produced by the witness.

Cross-examination.

By Mr. BECKWITH:

Q. The time you had that man with a fondness for water, and you charged seven hundred cubic feet to, if you had been running your bath-room on a flat rate, it wouldn't have bothered you, any, would it?

A. It couldn't.

Q. It would come out of the water works instead of you?

A. Very often I have to pay the water works indirectly, or pay the client his bath in an indirect way.

Q. Suppose you had been running on a flat rate, that customer instead of being watered at your expense, would have been watered by an excessive call on the water works. You wouldn't have worried about it at all?

A. I would, yes.

679 Q. You wouldn't have charged extra?

A. If he had an inch faucet running continually he would, practically, deprive somebody else of getting his supply.

Q. It wouldn't have affected you?

A. It wouldn't have affected me, no.

680 STATE OF LOUISIANA, *Parish of Orleans.*

Civil District Court, Division "E."

STATE OF LOUISIANA *vs.* NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court, before the Hon. Geo. H. Theard, judge, on November 22nd, A. D. 1899, on behalf of plaintiff.

Mr. Forman of counsel for plaintiff having been called to appear in a trial before the supreme court of this State on this day, the examination of witnesses for the State is continued by Mr. McLoughlin of counsel for the City of New Orleans.

JULES MONTREUIL Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. You are an officer of the Merchants' Mutual Insurance Company?

A. Yes sir, secretary.

Q. Do you use the water of the water works company?

A. Yes sir.

Q. How long have you used it?

A. Over thirty years. Ever since we have been there.

Q. Have you had the same facilities there—the same number of openings during the past ten years?

A. Yes sir.

Q. What rates have you been paying?

A. $45.00 per year.

Q. Have you your bills with you?

A. No sir, I have not.

Q. Have you looked for them?

A. I did.

Q. And you couldn't find them?

A. No sir, but I have the amount which I paid, and which I took from the cash book.

681 Q. You paid $45.00 a year?

A. Yes sir.

Q. And what openings have you?

A. There is a hydrant downstairs—we have three facilities; three urinals, washstand up and downstairs in the three stories, and three sinks.

Q. And you have paid this all along?

A. Yes sir, all along.

Q. Is your company interested in any way in the water works company?

A. No sir.

Cross-examination by Mr. BECKWITH:

Q. Where is the Merchants' Insurance Company's office located?

A. 622 Canal street.

Q. How long has it been located there?

A. Well, I really don't remember; I think it has been there since before the war.

Q. Are you sure of it?

A. I think it was.

Q. How long have you been connected with it?

A. Thirty-one years.

Q. It has had its office at another place some time, has it not?

A. Yes sir, on Canal street where Moreau used to keep. In that neighborhood, before this building was put up.

Q. What number of adult persons, including servants, have you on the place?

A. Well, at present we have about—downstairs we have seven, and a porter, that's eight; and upstairs it is rented to Mr. Denis who has two sons and a clerk, I think.

Q. You have a filter there?

A. Yes sir.

Q. And didn't you omit a slop sink?

A. Sir?

Q. I say, didn't you omit a slop sink?

A. A slop sink? What do you mean?

Q. A sink for pouring in slops?

A. There may be one, I don't know; may be upstairs. It is not used though; I don't think it is.

682 By Mr. McLOUGHLIN:

Q. Now, Mr. Montreuil, do you use the water at your residence?
A. Yes sir.
Q. Prior to 1899, what facilities did you have there for its use?
A. When I lived on Esplanade avenue I paid $20.00, and prior to that I was living on Rampart corner of Ursuline, and I paid $16.00 there. I had no water in the closets. I had one bath-room, and a hydrant in the yard.
Q. Have you your bills with you?
A. No sir, I couldn't find them.
Q. What facilities did you have on Esplanade street?
A. I had a hydrant, closet and bath-room.
Q. No sinks in the kitchens?
A. No.
Q. And now when you moved on Rampart street?
A. We only had the hydrant and the bath-room.
Q. And there you only paid $16.00?
A. Yes sir.
Q. Was the rate the same during the ten years preceding that?
A. Well, I had it for ten years preceding.—For three years preceding I was there, I paid the same rate, yes sir.

Recross-examination by Mr. BECKWITH:

Q. You are speaking—you are living on Dauphine street now?
A. Yes sir, at number 1416.
Q. How many rooms in the house?
A. Rooms?
Q. Yes, the total?
A. There are seven rooms and a kitchen.
Q. And a bath-tub?
A. Yes sir.
Q. A urinal?
A. No sir.
Q. What do you use upstairs?
A. There I am paying $16.50 this year.
Q. I mean prior to this year?
A. I didn't live there then.
Q. When did you move in the Dauphine Street place?
A. Last October a year.
Q. A year ago, this October—1899?
A. Yes sir.

683 J. N. FROWEN Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Frowen, do you keep a bar-room?
A. Yes sir.
Q. Where?
A. South Peters street.
Q. You use the water of the N. O. Water Works Company?
A. Yes sir.
Q. Prior to this year—previous to the year 1899, what did you use.
A. Two sinks, a washstand and urinal, and I have a beer pump attached.
Q. What did you pay for them?
A. Forty dollars.
Q. And what did you pay before?
A. $40.00.
Q. All the time you used it?
A. Yes sir.
Q. Did you have those facilities during all that time?
A. No, I had two sinks, a washstand and urinal, and the man that put in the ice box said there would be no extra charge for the beer pump, and they haven't charged me any more since.
Q. Have you brought your receipts?
A. Only this year's receipt I have.
Q. You haven't the others?
A. No sir.

Cross-examination by Mr. BECKWITH:

Q. You use the water there for washing glasses, don't you?
A. Washing glasses and washing dishes in the kitchen.
Q. What sort of urinal have you, a basin or a perforated tube?
A. I have a perforated tube; I changed it to a perforated tube.
Q. How long is the tube perforated?
A. About two feet.
Q. Your family live in the building?
A. No sir.
Q. How many stories is the building?
A. Two story.
Q. You occupy both?
A. Upstairs is the kitchen and storeroom and downstairs is the bar.
Q. You keep a lunch table?
A. Yes sir.
Q. And your cooking is done there?
A. Yes sir.
Q. Is there any hot-water-range connection?
A. No sir.
684 Q. You give a lunch every day?
A. Yes sir, all but Sunday.

J. SIFFON, Esq., sworn for plaintiff deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Siffon, do you use the water of the N. O. Water Works Company?
A. Yes sir, since 1897.
Q. For what purposes do you use it?
A. For washing glasses.
Q. You have a beer pump—a bar-room?
A. Yes sir.
Q. How many openings?
A. Two.
Q. Prior to this year had you been using the water?
A. Yes sir.
Q. What did you pay in 1898 for those two faucets?
A. $25.00.
Q. What did you pay in 1897?
A. $25.00.
Q. Do you know Mr. Frowen's bar-room?
A. Yes sir.
Q. Is it a larger or a smaller place than yours?
A. Not much difference.

Cross-examination by Mr. BECKWITH:

Q. How many hydrants did you have in 1897—how many openings?
A. Two.
Q. What were they?
A. One hydrant and one faucet.
Q. Where was the faucet?
A. One in the yard, one in the pantry.
Q. Do you give a free lunch?
A. A cold lunch, yes sir.
Q. Where is the cooking done; on the premises?
A. No sir, it is done at home.
Q. Is there a urinal there?
A. Yes sir.
Q. A water-closet?
A. No sir, no closet.
Q. What sort of a urinal is it?
A. Well, a regular bowl.
Q. You stated something about Frowen's bar-room; where is that?
A. On South Peters and Poydras.
Q. Do you know anything about it?
A. Never been in there, no sir.
Q. You don't know what openings he has?
A. No sir.
Q. And you don't know what use he makes of the water?

685 A. No sir.

Q. When you say about the same size, you mean the dimensions?

A. Yes sir, a little larger place than mine.

Q. Is it a large room—a longer counter?

A. The place is a little larger—the building.

J. KRUMM Esq., sworn for plaintiff deposes and says :—

Direct examination by Mr. MCLOUGHLIN :

Q. Mr. Krumm, you have a restaurant——

A. Yes sir.

Q. On Poydras street?

A. Yes sir, No. 738 near Carondelet.

Q. Do you use the water of the N. O. Water Works Company?

A. Yes sir.

Q. What I am asking you is, prior to 1899. How many openings did you have prior to that time?

A. Two.

Q. What did you pay?

A. Thirty dollars a year.

Q. For how long?

A. Since 1891.

Cross-examination by Mr. BECKWITH :

Q. How many stories is that building?

A. The building I am living in is three-story.

Q. Well, did you live there since 1891?

A. No sir, I am there for two years—that is——

Q. Well, where did you live prior to that?

A. In 1891, 215 Poydras street; the landlord at that time was George Eastman—the bill was made out in George Eastman's name, and I paid for it. There were two faucets there. I had a stand in the Poydras market then, and I paid thirty dollars.

Q. Now going back to your present place, how many rooms in it?

A. In the place where I am living now?

Q. Yes.

A. There is six rooms and a kitchen, and a restaurant downstairs.

Q. How are those rooms occupied?

A. They ain't occupied at all; there is only one employee stays there, and that's my brother.

686 Q. Have they been that way since you have been there?

A. Yes sir.

Q. You keep a bar-room?

A. No sir, I have no liquors at all in the house.

Q. What number of chairs and facilities, if any, have you?

A. I have forty-five chairs.

Q. And where is the cooking done?

A. Downstairs in the yard.

Q. You keep a hot-water bath connection?
A. No sir; I didn't at that time.
Q. I say did you keep a hot-water bath connection?
A. No sir. I have one now.

By Mr. McLOUGHLIN:

Q. How long have you been paying thirty dollars a year for the one hydrant in the market?
A. I paid in 1894—I had the use of one hydrant there, and that was at 223 Poydras street—Steve the proprietor has three bath-tubs and three openings there. We paid $75.00; he paid $30.00 and I paid $45.00. I had the use of only one hydrant.
Q. That wasn't in the market?
A. Yes sir—I had a stand in the market at that time.
Q. And you went across the street?
A. I had to carry the water from my house to the market stand; that was understood; and in 1895, the same case. I lived in that house two years. In 1896, I lived at 229 Poydras, and had to pay thirty dollars for one hydrant.
Q. Did you do business there?
A. Yes sir.
Q. Any larger or smaller business than the present one?
A. No sir, the same stand.
Q. Did you ever try to get those rates detached?
A. No sir.
Q. Just paid the bills——
A. As presented, yes sir.

By Mr. BECKWITH:

Q. Will you tell us what the coffee stand was—you sold only coffee?

A. No sir; we had victuals, pork, beef etc., coffee and
687 chocolate and milk.

Q. Where was the cooking done?
A. There in the house at 215 Poydras—223 Poydras and 229 Poydras.
Q. When you occupied the premises, you occupied them as a restaurant, or for some other business?
A. The one I live in now?
Q. No, the place where you had this cooking done; the place was occupied by you?
A. I lived on the second floor, yes sir.

D. J. LAUDERBACH, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. McLOUGHLIN:

Q. Mr. Lauderbach, you are a plumber—you keep a plumbing establishment?
A. Yes sir.
Q. On Royal street?

A. On Exchange alley.
Q. Do you use the water of the water works company—previous to 1899, I mean?
A. Yes sir.
Q. How long have you used it?
A. About—since 1878.
Q. Since 1878 how much water have you used?
A. Two hydrants; two openings.
Q. All that time you had two openings?
A. Yes sir.
Q. What did you pay in 1878; have you got your bills?
A. No sir, I lost them—I got some of them.
Q. Have your rates been the same all the time?
A. Yes sir.
Q. How much?
A. No, not all the same rates; commencing with $12.00, $15.00, $18.00, $20.00, and now it is thirty ($30.00) dollars.
Q. When did they put it at thirty dollars?
A. Eight years ago.
Q. You had the same number of openings all the time?
A. Yes sir.
Q. Used no more water?
A. No sir, the same quantity—a small restaurant, and for the house.
688 Q. For the restaurant and your plumbing store—have you got a plumbing establishment?
A. I have a working shop there, yes sir.
Q. That is, you make stencil plates and so on?
A. Yes sir.
Q. You are not a plumber then?
A. No sir.
Q. You have a restaurant next door, which your wife keeps?
A. Yes sir.
Q. You have kept it for how long?
A. Since 1884.
Q. So that you have been using this water for your stencil shop and restaurant?
A. Yes sir.
Q. And they started with $12.00 and ran it up to $30.00?
A. Yes sir.
Q. And you used no more water?
A. No sir.

Cross-examination by Mr. BECKWITH:

Q. How many gallons of water do you use a year?
A. I don't know; I never measured them.
Q. You don't know whether you used more one year than you used another?
A. No sir.

Q. What size restaurant have you there?
A. Well, it a place eight feet by about forty feet.
Q. How many tables and chairs?
A. About seven tables—small tables.
Q. When did you install that restaurant; when did you start it. When did you first commence that restaurant?
A. We started in 1883, I believe—I didn't start it. Some of my tenants, and he gave it up and I took it. The house was mine.
Q. Well, how many rooms in the house?
A. Nine small rooms upstairs.
Q. You keep boarders and roomers?
A. Yes sir.
Q. You have a urinal there?
A. No sir just a back-house.
Q. And your family live there also?
A. Yes sir.
Q. How do you know what your son paid?
A. My son?
Q. Yes.
A. I have nothing to do with my son.
689 Q. I understood you to say your son had the restaurant before? The cooking is done you say, on the same premises?
A. Yes sir.

N. RAMBOTIS, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Rambotis, you have a store on Canal street? New York Confectionery Company?
A. Yes sir.
Q. Prior to 1899, did you use the water of the N. O. Waterworks Co.?
A. Yes sir.
Q. Your name is N. Rambotis?
A. No sir, my name is Wintz.
Q. That is your name, but you are the manager of that confectionery?
A. Yes sir.
Q. How much water do you use; what openings have you there—prior to this year, I mean?
A. I have to show the receipts for that; I haven't been with him very long. I have receipts here for 1896. Two bath-tubs and three sinks.
Q. How long have you been there?
A. Fifteen months.
Q. Is there any bill that you know personally what you paid, outside of the bill for 1898?
A. Not that I know of.
Q. For 1898, do you know how many openings you had?
A. Two faucets, one sink, one hydrant.

Q. That means two openings?
A. Yes sir.
Q. What do you pay for that?
A. $15.00 I think.
Q. You make all your own candy?
A. No sir.
Q. You make some candy though, don't you?
A. Very little.
Q. What do you use the water for?
A. For washing glasses, and the bakery there.
Q. Do you use much flour in that bakery?
A. About two or three barrels a week—two barrels.
Q. Just a small bakery then?
A. Yes sir.
Q. Not a bread bakery, is it?
A. No sir.
690 Q. A cake bakery, I suppose?
A. Yes sir. Very little cakes, that is all.
Q. You keep furnished rooms there?
A. No sir.
Q. Who knows about the accommodations for the use of the water there before you came?
A. Mr. Rambotis.
Q. Where is he today?
A. He is not feeling well, and was unable to come down himself. He suffers with rheumatism. He told me to come down and bring these receipts.
Q. He told you to come down and bring those receipts?
A. Yes sir.

Counsel for plaintiff, offers in connection with the witness' testimony the six (6) receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Do you know what the openings were in 1896 and 1897?
A. No sir.
Q. You had no connection with the establishment?
A. No sir.
Q. You don't know whether there was baths there yourself or not?
A. No sir, the receipts show for that.
Q. Do you know whether it was reported to the water works company that you were having a bakery there of any kind?
A. No sir.
Q. What cistern capacity have you there?
A. 2,000 gallons about.
Q. Was it not reported that 3,000 gallons——
A. Well, that I don't know; but I should judge about 2,000; it is a very small cistern—an ordinary size cistern.
Q. Do you know Mr. Rombotis' signature?

A. Yes sir.
Q. Is that his signature (counsel exhibits a document to witness)?
A. Yes sir, I think it is.

691 Counsel for the defendant company offers in evidence, the document identified by witness, marked "Wintz 1."

By Mr. McLOUGHLIN:

Q. Do you know anything about the supply in 1897?
A. No sir.
Q. Is Mr. Rambotis able to come down here—is he in the store now?
A. Yes sir.
Q. Tell him to come here please?
A. This afternoon?
Q. Yes.
A. All right.

S. G. HEVIA, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. McLOUGHLIN:

Q. Mr. Hevia, what is your business?
A. I am out of business.
Q. Do you use the water of the N. O. Water Works Company?
A. I got about six faucets.
Q. How long have you used it?
A. Since 1867.
Q. Have you any receipts?
A. Yes sir.
Q. Let's see them?

(Witness produces receipts.)

Q. The house 155 Toulouse street—you still own it?
A. Yes sir, that is the old number.
Q. In 1868 you paid $15.00?
A. And still I pay the same.
Q. What did you pay last year?
A. The same thing.
Q. And how many openings have you got there?
A. Only one hydrant.
Q. You paid the same all along for that one opening?
A. Yes sir.
Q. What did you use it for?
A. Family use.
Q. You used it sometimes for a grocery, didn't you?
A. That's the corner house, next door.
Q. Now, the house 160 St. Louis street, that is where the oyster saloon was?
A. Yes sir.
Q. Is it there yet?
A. No sir.

Q. How much did you pay there?
A. I was paying $18.00, and I found that on account of a gas-fitter they raised it to $20.00.
692 Q. Now, the house 38 Marais street——
A. $12.00 all along, of course. I have a cistern at the same time.
Q. That house is a small house is it not—on Marais street?
A. Well, about seven rooms.
Q. Now, how about No. 426 S. Rampart street?
A. That is where I live; there is no water works there now.
Q. What did you pay there?
A. I was paying $14.00, and then I rented it to a Chinaman, and I had a cistern besides, and they raised it to $20.00, and I told the company to stop the water right away, and I put in a larger cistern.
Q. What does the Chinaman use it for?
A. A restaurant; you will find the receipt in there.
Q. You say that the Chinaman moved out?
A. He didn't stay there a year.
Q. He moved out?
A. Yes sir.
Q. Did you get the water put back there?
A. No sir, I got two large cisterns.
Q. Did you try to get it put back?
A. No sir, I got no use for it.

CHAS. BURDEAU, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Burdeau, you are one of the fire department—you are a member of the fire department?
A. Yes sir.
Q. What company?
A. The water tower.
Q. You are driver of the water tower?
A. Yes sir.
Q. How long have you been in the fire department?
A. Since its organization.
Q. Do you know of any time when fires occurred, where the supply of water from the plugs or wells of the water works company was not adequate for extinguishing them?
693 A. Yes sir; on December 6th at the corner of Decatur and Toulouse; we were called there and the water was very scarce. The next thing, was at the corner of Natchez & Tchoupitoulas, the water supply gave out and we had to dispense with the services of the tower altogether.
Q. All this happened prior to 1899?
A. Yes sir, on the 6th of December and one on the 7th.
Q. Two nights, one after another?
A. Yes sir.

Q. Now, how about the equipments of the plugs, nipples and nozzles?
A. I am not familiar with that at all.
Q. Do you know of any other fires where these water supplies were short?
A. No sir;
Q. How long did it take you to get water at those fires?
A. We got it very readily—pretty quick, but the water gave out.

Cross-examination by Mr. BECKWITH:

Q. What connection did you have with the company at that time—what position?
A. Same position as I am holding now—driver.
Q. What are your duties when the engine reaches the fire?
A. My duty is to direct the nozzle, where I am directed to by the chief.
Q. Who takes care of the horses?
A. My assistant.
Q. Where did your engine start from?
A. Girod between St. Charles & Carondelet.
Q. Did the engine have a heater?
A. No sir; the steam-engine forces the water in the tower.
Q. Where did you locate the tower?
A. On Girod street——
Q. I mean at the cork fire?
A. Right in front of the building.
Q. On what street?
A. On Tchoupitoulas street.
Q. How many engines were there?
A. Two engines coupled on it.
Q. Where did they take water from?
A. I don't know sir; I don't know whether they took it
694 from the well or plug; sometimes I am a distance from the engines.
Q. How do you know the engines had steam up when you got there?
A. Yes sir, they had enough steam to start the tower before it went to work—about five or ten minutes.
Q. On what day was that?
A. The 7th day of December, 1897.
Q. You know where the fire-wells and mains are in that locality?
A. No sir, I don't know.
Q. How many engines were attached to your tower?
A. Two.
Q. You haven't any idea where they took the water?
A. No sir.
Q. How many million gallons of water would have been required to put out that fire, do you think?
A. I have no idea sir.

Q. No idea, and there was fifteen or twenty million gallons of water used at that fire?
A. Yes sir.
Q. Do you know whether the wells were opened or not?
A. No sir.
Q. You don't know whether your two engines had been attached to a two-inch main, four-inch main, or a ten-inch main?
A. No sir.
Q. How long was the water tower in use at that fire?
A. Only about ten minutes.
Q. Were they not driven out of the street by the falling out of the wall?
A. No sir.
Q. No effort was made afterwards to work it?
A. No sir.
Q. Was not the street flooded with water there?
A. No water on Tchoupitoulas street, no sir.
Q. Not on the two streets that run on each side of the block?
A. No sir—on Poydras street they had plenty, but not on Tchoupitoulas.
Q. But there was plenty on Gravier street was there not?
A. I don't know; I didn't go there.
Q. Well, there was more water on Poydras street than the water tower could use, was there not?
695 A. I suppose so, but they didn't have enough water at the time they needed the water. When they needed the water, they couldn't get it.
Q. Why—they can't get it if they don't open the wells can they?
A. It is not my duty to open the wells.
Q. You don't know whether the wells were opened or not?
A. No sir, I do not.

O. PITTFIELD Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. What do you do, Mr. Pittfield?
A. Engineer sir.
Q. Of what number?
A. No. 10.
Q. How long have you been such?
A. Eight months.
Q. How long have you been in the fire department?
A. Since it started.
Q. Where were you before 1899?
A. Volunteer department.
Q. No,—but in the paid department; what position did you occupy?
A. Engineer all the time.
Q. Do you know of any fires where there was not enough water to extinguish the fires?

A. In late years.
Q. Since you have been in the department; of any year?
A. Fifteen or twenty years ago?
Q. Mark me, six or seven years?
A. I know of no trouble at all.
Q. Have you ever heard or been to any fire where there was not enough water?
A. All the time I went to it I always got enough water when I wanted it.
Q. What engine were you with before 1899?
A. With 26.
Q. That is away uptown?
A. Back in the suburbs—on Broad street.
Q. You had no water supply there at all, had you?
A. They have now, but they didn't when I was out there. There was a canal there.
Q. So you used the water in the canal mostly and had plenty of it?
A. Yes sir.

696 L. MEYER Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Meyer, how long have you been connected with the fire department?
A. Since it started.
Q. What position have you now?
A. Driver of No. 1.
Q. Prior to this year, do you know of any fires where there was not enough water for the purpose of extinguishing them?
A. Since 1899?
Q. Before 1899?
A. Well, yes; one up as far as Eighth or Ninth street; there was no water up there.
Q. Well, tell us something about it?
A. We had to go to the river to get water.
Q. Where was that fire?
A. Fabacher's stables on Tchoupitoulas street.
Q. Were there no water plugs near there?
A. No sir.
Q. Well, where there are water plugs; that's what I want?
A. I have been at a plug on Sorapuru & Tchoupitoulas street-, and there was no water in it.
Q. Went there to put out a fire?
A. Yes sir.
Q. When was that about?
A. About 1897 I think.
Q. Were there any other engines on that plug?
A. Two engines on Sorapuru and Rosseau.
Q. That is the nearest?

A. Yes sir.
Q. Did they get water?
A. I couldn't say how much they got. The plug we took had no water in it.
Q. The engine was in good order?
A. Yes sir.
Q. Any other fires that you know of, where there was no water, or not enough water?
A. Yes sir Natchez & Tchoupitoulas. We went to a plug there, and there was no supply in it.
Q. No other fires—when was that?
A. That was a cork factory fire.
Q. Any others?
A. No, I don't remember any other.
697 Q. Anything in the residence district?
A. No.
Q. Your engine is on Hunter street?
A. Yes sir.
Q. And in the cotton district any scarcity of water there?
A. Yes sir—no sir; one place there corner of St. Thomas & Robin; that's the only place that has a well there that wouldn't supply an engine much.
Q. That existed for a long time that way?
A. Well, I guess since 1876.
Q. That is far from the water works company?
A. About four or five blocks.
Q. You can't get enough water to supply an engine there?
A. A very small supply.
Q. Any others in the neighborhood like that?
A. On Tchoupitoulas and Nun.
Q. That's right alongside isn't it?
A. No supply there.
Q. Have you tried to get water out of those wells, and opened the wells and facilities?
A. Yes, sir, I opened them myself; the water wasn't enough.
Q. There wasn't water enough?
A. Well, water enough to just run out, that's all.
Q. When you tried those wells, were there any other engines there?
A. Nos. 1 & 12; we never had any chance to take any on St. Thomas & Robin.
Q. Do you know any others?
A. No, I don't remember any others.
Q. What are you now?
A. A driver.
Q. Who is captain of No. 1?
A. John Fagg.

Cross-examination by Mr. BECKWITH:

Q. Can you give us the date and the time when you tried to get water on Tchoupitoulas & Nun?

A. No sir, I couldn't tell you the date exactly; about two years ago, I believe, not much more than that.

Q. Were there any other engines pumping in the vicinity?

A. Yes sir, No. 12.

Q. Where was No. 12?

A. Taking water out of the well.

Q. Do you know what the size of the well is there?

A. No sir.

698 Q. Where is the other well you say you couldn't get any water out of?

A. I say at the corner of St. Thomas & Robin. I never had any chance to take any water there.

Q. Why?

A. We stopped at Robin & Tchoupitoulas.

Q. Well, why did you say there wasn't any water there?

A. I tried it and know; I opened it myself.

Q. When there was no engine pumping?

A. Yes sir.

Q. When did that occur?

A. When I went around with the water-works man.

Q. Give us the date?

A. I don't know.

Q. Can you give us the year?

A. In 1898.

Q. What time in 1898?

A. I couldn't say.

Q. Was it in the spring or winter or fall?

A. In the summer time—red hot too when I went there.

Q. What did you go there for?

A. To try the wells with the water-works man.

Q. What water-works man went with you?

A. I couldn't say his name.

Q. Do you know the chief engineer there—Orell?

A. Yes sir, but this was not the man. I was with the man that inspects the plugs, and works from block to block; that's the man I went with.

Q. You didn't get him then at the pumping station?

A. No sir, I was supposed to meet him at some corner, and we took in the block.

Q. What kind of a looking man is he?

A. A short dark man. I went with this man Adams I believe, but that is not the work we have now.

Q. Did he speak English with an accent?

A. Yes sir.

Q. I mean did he speak English as if his original language was some other?

A. No.

Q. Now, what other plugs or wells did you try, and didn't find any water?

699 A. We went to a well at the corner of Tchoupitoulas & Poydras once.

Q. On a fire alarm?

A. Yes sir.

Q. Well, when was that?

A. That was the Morris-McGraw fire.

Q. Do you remember when that day was?

A. No sir, I didn't keep a record of it.

Q. What is your duty when you go to a fire?

A. I get to the nearest plug or well that I can find.

Q. Each engine tries to get to the water first?

A. Yes, try and get as near as they can.

Q. At the McGraw fire, what hydrant did your engine hook onto?

A. Poydras & Tchoupitoulas.

Q. Any other engine there?

A. Yes sir.

Q. In the well?

A. Yes sir, No. 6.

Q. Did you try to get water anywhere else?

A. No sir, No. 6 had to leave the well, and we stayed there, and it just barely supplied us at that time.

Q. Do you know where the fire-wells are in that vicinity?

A. Sir?

Q. Do you know where the fire-wells are around there?

A. Yes sir.

Q. Where are they?

A. Poydras & Fulton.

Q. And Poydras and Gravier too?

A. Fulton & Gravier.

Q. Were those wells opened?

A. I couldn't say; there was one opened, I know; Fulton & Poydras. I don't know about the other.

Q. Didn't the water rush in the street, and fill the gutters at that time, from the Poydras well?

A. No sir.

Q. How long after you got there were they opened?

A. I wasn't there; I was at the pipe then; I wasn't at the well.

Q. Well, how many engines were at that fire?

A. I couldn't say how many.

Q. It was a general alarm, was it not?

A. I believe so.

700 Q. Well, how many does that bring?

A. Sometimes three, four or five.

Q. A general alarm would only bring five engines to a fire?

A. Sometimes.

Q. Well, how many engines should respond to a general alarm?

A. I don't know.

Q. What time of night was it?

A. About half past seven or eight o'clock, I believe.
Q. Do you mean the Morris or the McGraw fire?
A. J. C. Morris.
Q. You said something about the fire of McGraw?
A. No sir, I said the J. C. Morris.
Q. What time did you get there in the night?
A. About half past seven or eight, I believe.
Q. How long did you stay there?
A. I don't know; I didn't keep a record of that.
Q. You don't know where the other engines took water from, and whether they got enough or not?
A. No sir, I couldn't say.
Q. You threw water when No. 6 left, didn't you?
A. Just barely had enough.
Q. They had water in the gutters?
A. They had enough to do with the well.
Q. Opening another fire-plug might have something to do with it—now will you state the date of this fire at Sorapuru street?
A. No sir, I can't state exactly the time; we coupled onto the plug at Sorapuru street and there was no water in it.
Q. Did I ask you what the date was?
A. I couldn't say about the date—what the date was.
Q. What year was it?
A. I don't know.
Q. You don't know whether it was three years, five years or twenty years ago?
A. No sir, not twenty years ago.
Q. Well, how many years?
A. About two or three years ago.
Q. About two years ago?
A. 1888 about.
Q. You mean 1888 or 1898?
A. 1898, I should say.
Q. What time in 1898?
701 A. I don't know.
Q. What time of day was it?
A. It was at night.
Q. Well, what time of night?
A. I don't know sir.
Q. You don't know whether it was before or after dark?
A. It was dark; I don't know what time it was though.
Q. You don't know whether it was in the early part or the middle part of the night?
A. No sir, it wasn't near morning at all.
Q. Can you tell us the month?
A. No sir.
Q. Can't give us as near as that even?
A. No sir; I don't keep records.

J. J. THOMAS Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Thomas, you are engineer of No. 1?
A. Yes sir.
Q. How long have you been such?
A. Pretty near five years.
Q. Mr. Meyer is the driver of your engine?
A. Yes sir.
Q. Now do you know anything about the insufficiency of water at fires?
A. Well, yes.
Q. Can you tell us a few of them prior to 1899?
A. No date, but we even went to fires when we couldn't get water.
Q. Give us some of the names or locations?
A. Well, the J. C. Morris fire for one, and the cork factory for another; and the oil store on Tchoupitoulas near Gravier was another one.
Q. Did you try to get water at those places?
A. Yes sir.
Q. Well, why couldn't you get it?
A. We got there, and threw the water suction in the well and the water ran down after awhile. That is, at the J. C. Morris fire.
Q. You used it at the oil-store fire?
A. We took the plug at the corner of Gravier & Tchoupi-
702 toulas and we had to leave it and throw the water suction in the gutter at Gravier & Tchoupitoulas.
Q. Did you ever test any wells and plugs up in the vicinity of your engine-house—in that neighborhood?
A. That is to take the pressure ?
Q. Yes sir.
A. Well, in some instances, yes; we may start the engine you know, and find maybe twenty-five or thirty pounds water pressure in some of the plugs; but to take the test we do it just when the engine stops you know.
Q. Do you know of any defective wells or insufficient quantity of wells or plugs near your engine-house?
A. Well, there is a well at Nun & Tchoupitoulas, which is a bad one.
Q. How long has it been bad?
A. Well, it must be since it was put there; it is in with those new wells; we worked there with number 12, and could hardly get a water supply from them.
Q. How about Tchoupitoulas & Felicity?
A. That is the same well——
Q. That you had at that Sorapuru fire?
A. Yes sir.
Q. Do you know about one that took place there?
A. Yes sir, we couldn't get any water out of the plug. I sent word to the captain, saying that we couldn't supply the boiler.

Q. Did you ever find the water supply to improve after the second alarm has been sent in?

A. Well, after the well—they get out in front, and after that get water supply maybe, but when we first get to a fire we get in the immediate neighborhood of it of course.

Q. You are a practical engineer of course?

A. Yes sir, about thirty years at the business.

Q. Does the river water hurt the engine in any way?

A. It hurts the boilers and chambers and the pumps, and
703 cuts the chambers and valves.

Q. Now, as to the equipment that the water works company puts on its wells in the nipples and on the plugs, do you have any difficulty about them?

A. Yes sir; sometimes we can't couple our suctions on them. Sometimes different wells have different size nipples on those plugs.

Q. There is no uniformity then in the plugs; they are of different sizes?

A. Yes sir.

Q. How long have you had that difficulty with them in that way—twenty years ago?

A. Yes sir, ever since I have been with the department.

Q. They have not remidied that?

A. No sir.

Q. Do you know of any other fires which you can recall, where there was a short water supply?

A. The cork factory; we had to leave the plug and go to the Poydras Street gutter.

Q. Anything around the cotton district in the way of short water supply?

A. Well, no; the wells up there are very good wells; they are old and good wells; the new wells give us the trouble.

Cross-examination by Mr. BECKWITH:

Q. How long have you been an engineer operating a steam fire-engine?

A. About ten or twelve years.

Q. You were connected with the hand engines before that time?

A. With steam-engines before that time, of the volunteer department.

Q. But I ask you how long you have been connected with steam fire-engines for extinguishing fires?

A. Well, about twenty years.

Q. In the city of New Orleans?

A. Yes sir.

Q. How many grades of engines have you been connected with, as to capacity?

A. Well, I don't know the capacity of the engine, or the grades; I worked in third-class engines, and now in the first-class engines; I don't know how to grade them.

704 Q. Well, would it make steam enough?
A. Yes sir, makes plenty of steam.
Q. What pressure do you carry?
A. Well, that depends on the water they want at the fire.
Q. What can you carry?
A. If we get the water supply, we can carry two hundred and fifty pounds.
Q. What is a safe pressure in the case where you want to throw as much water as you can?
A. About a hundred and twenty to 150 pounds.
Q. How much water will that class of engine throw in a minute—in gallons?
A. I have no idea.
Q. You never knew?
A. No sir, I didn't study that part of it.
Q. Do you know the size of your water cylinders?
A. Yes sir.
Q. Do you know the number of strokes they make in a minute?
A. No sir.
Q. You have no curiosity about that?
A. No sir.
Q. Is there any revolution indicator on them?
A. No sir.
Q. You haven't any idea what amount of water it would take to supply those engines?
A. No sir.
Q. It is easy to arrive at that, is it not?
A. Well, I am not the best educated in the world, you know; I have a poor education.
Q. Well then, how can you be connected with a machine, doing a particular work, and not be curious to know how much work it will do?
A. No, the only thing when I see the pressure on the pressure gauge, I would know what they were doing.
Q. Well, these steam-engines are made up to get up pressure, aren't they?
A. Yes sir, they get their own pressure.
Q. They can throw water taking it from a condition of rest, as well as under pressure? That is, you put your suction in a
705 common well, and it will throw the water?
A. Yes sir.
Q. And you can get all the pressure that your steam will permit—in the river?
A. Well, that depends on the size of nozzle you get at the end of the line.
Q. Well now you know what a reducer is?
A. Yes sir.
Q. Those engines don't carry reducers in that locality?
A. Always since I have been in the business.
Q. These plugs that you speak of were plugs existing prior to 1878 were they not?

A. Yes sir.

Q. You are familiar with the fire-plugs which existed when the city had the wells?

A. Yes sir.

Q. You were a fireman then?

A. I don't believe I was.

Q. When did you first become a fireman?

A. Twenty-five years ago about.

Q. You don't remember the year?

A. No, I don't believe.—I believe it was in 1876 or 1875, something like that.

Q. Now, how many engines stood at the Sorapuru fire?

A. About five engines.

Q. Some got there before you?

A. Yes sir; we are generally the last to get there.

Q. When you got there the plugs and wells in the vicinity were taken up by the other engines?

A. Yes sir, there was two engines on Rousseau & Sorapuru connected to the plugs there, and we took the plug at the market, and started the engine up and couldn't get water to feed the boiler.

Q. Because the other engines were taking it I suppose; you don't mean to say there was no water there?

A. There is water comes out the plug when there is no other engine in the vicinity; now there is no well on Tchoupitoulas street——

Q. When did you undertake to use that—at what fire?

A. A couple of years ago; somewhere around First and
706 Rousseau; I don't know where the force was; I couldn't leave the engine.

Q. But you came to the fire with the engine?

A. Yes sir; but sometimes I might be two blocks away from the fire.

Q. Do you know how many engines were taking water in the main that leads to that Nun Street well?

A. I couldn't say; I suppose all the other engines that answered the tap.

Q. Do you know the size of that main?

A. No sir.

Q. Now can you tell us whether it was in the daytime or at night?

A. In the morning about two or three o'clock.

Q. About how many years ago?—You say two years ago?

A. Yes sir.

Q. Was it daytime or night?

A. It was at night-time.

Q. You had no means of knowing what the pressure was on the general water system at that hour?

A. No sir, there was none on that plug; that's all I know.

Q. Now is it not true that the nozzles on the hydrants are sometimes injured by you people's screwing and coupling with another thread?

A. The great trouble is we have to break the box on the plug sometimes to screw it on.

Q. How is that?

A. We get a hammer and break the box.

Q. Why?

A. Because the box is leaning over the nipple and can't get on.

Q. Do you know the number of threads to an inch of a suction hose?

A. Well, about seven I believe.

Q. Is it an even seven?

A. I couldn't say that exactly—between seven and eight.

Q. Do you know what threads there are on a two and a half inch hose coupling?

A. Seven threads to the inch, I think.

Q. It is an even seven?

A. I couldn't say that.

707 Q. What threads—what different threads are on those different hydrants?

A. Well, I never took the size of any of them—there is a difference in the — plug and the Holly plug, and some of the Holly plugs are different from each other.

Q. When did you ever find that to occur?

A. At different times; well, of course I can't remember the date.

Q. Do you know whether you used the right reducer or not?

A. Yes sir, the reducer we used fitted in the Holly plug, unless the Holly plug was a size larger than the other.—The threads may be thicker.

Q. Tell us about the Holly plug that is installed in New Orleans, that has the regular thread as compared with the other Holly plugs?

A. I didn't notice.

Q. Locate a Holly plug that has different threads from the general run of the other Holly plugs?

A. Well, I don't know exactly—some on Jackson street, I believe; and one in the St. Mary's market.

Q. Is that connection in thread larger or smaller than the standard?

A. I think it is a little larger.

Q. Well now, tell me whether you don't hook onto those plugs without a gasket?

A. What kind of a gasket?

Q. Well, for making joinings—you call it a washer I suppose?

A. Well, we call them washers, and hose couplers around machinery. Around machinery they call it a gasket; outside the fire business they call it a gasket.

Q. Well, answer my question?

A. Well, we always carry a gasket as you call it.

Q. Well, I have seen hundreds of engines hooked onto those plugs without any gaskets. Have you not seen it?

708 A. I don't know what other people —, but I always carry a gasket or washer in my reducer.

Q. Do you carry it always in your couplings?
A. Yes sir; it wouldn't do to have to put them on when we get to a fire, it would cause too much delay.
Q. You carry extra gaskets in the engine?
A. Yes sir, we always carry extra gaskets.
Q. The gasket at the hydrant—in your hose, you depend upon sticking in?
A. Yes sir, they hardly ever jump out.
Q. They do sometimes, don't they?
A. Very little.
Q. Tell us what time of night the Morris building took fire—the time you were called out?
A. I couldn't say sir; in fact I couldn't tell you what time of night any fire is; the time of night never bothers me.
Q. Well, the cork-factory fire; what time was that, do you remember?
A. Well, in the early part of the night; we had a plug right beside the fire—right opposite the fire.
Q. On what street?
A. We couldn't get no water, hardly; not over thirty pounds of pressure. Mr. Gardner was standing right by the engine, and I heard him make some remark to a lady at the time.

Capt. P. T. BURKE, a witness for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. I think you are with No. 12?
A. I was, but not right now.
Q. But last year?
A. Yes sir.
Q. No. 12 is located where?
A. Tchoupitoulas between Race and Orange.
Q. Now, do you know of any instances where the water supply was short at any fires you attended?
A. Yes sir.
Q. State a few of them, giving the names aud dates.
709 A. At the corner of Felicity road & Religious on April 15th, 1897.
Q. What happened there?
A. No. 12 and 1, was working on the well at Felicity road & Tchoupitoulas street, and No. 1 had to quit work to allow No. 12 to get enough water to throw. On another occasion, May 24th, 1897 on the same well, No. 12 and 22 were there, and No. 22 had to quit and let No. 12 work, so as to have water to throw on the fire. On July 25th, 1897—the fire on Chippewa between Sorapuru & First, those stables there—No. 12 was working on a plug on Chippewa street between Philip & Sorapuru, and worked there a short while until No. 1, connected on the plug between Jackson & Philip, and when No. 1 connected, No. 12 couldn't get any water.
Q. Do you remember any others that you can recall right now?

A. Three—I don't remember the dates.

Q. Well, some that you don't remember the date, state to us about what time it was?

A. I remember the first Morris fire, and the well at Poydras & Tchoupitoulas, No. 1 and No. 6 was working on that well, and No. 12 was working elsewhere; and No. 12 working from the plug, wouldn't allow enough water to be thrown by No. 6, and No. 6 had to pull away and leave No. 1 there. As far back as 1893 there was a plug on St. Joseph street between Tchoupitoulas & Constance—we connected on that, but couldn't get any water from it.

Q. Now, you were right in the cotton district were you not?

A. Yes sir, at that time.

Q. How is the water supply there, as a general thing?

A. Well, all the old wells are good, but the new wells are very poor.

Q. Have you ever tested the pressure?

A. I tested it on the plug at Orange & Tchoupitoulas, yes sir.

Q. What did it show?

A. Thirty-five pounds.

Q. Have you ever known an instance where the first engine at a fire couldn't get water?

710 A. No sir, it never happened to me; not when you have any plugs or wells there; never happened to No. 12; I don't know about the other companies.

Q. And those fires you mentioned was through another district of property?

A. Yes sir.

Q. The fires could have been put out sooner with water enough?

A. Yes sir. If we had had two lines of water instead of one.

Q. How long have you been connected with the fire department?

A. Since December 15th, 1891,—since its organization.

Q. Is the water supply in your district—in your old district where you were, better now, or the same as in 1891?

A. Well, there is some improvement; there are more wells and plugs than in 1891.

Q. Is the pressure any better?

A. We didn't test the pressure in 1891.

Q. Can you get as much water now as you could in 1891, or can you get more or less?

A. About the same amount now.

Cross-examination by Mr. BECKWITH:

Q. This first fire that you spoke of in your direct testimony, when did it occur?

A. 1.33 a. m.

Q. Do you know what the water-pipe distribution is, up there?

A. It leads between the wells as far as I understand; I was only told so.

Q. Do you know whether—what the facilities were or had been?

A. Yes sir.

Q. How do you know?

A. Because I went back there and found out why we didn't get any more water.

Q. Why was it?

A. The supply didn't come out of the well.

Q. You say it was an eight-inch nozzle in there?

A. I don't know positively.

711 Q. What other mains and hydrants were in the vicinity of that fire?

A. I am unable to say.

Q. You don't know whether there are larger mains available or not?

A. No sir, I don't.

Q. Is it not a part of your education, or should it not be, as captain of a fire-engine, to know the distribution in every part of the city where there is any distribution?

A. Yes sir, it is supposed to be part of our duty, but it is not a part of our duty to know what is operated underground.

Q. You only know by the hydrants then, but you don't know the sizes?

A. No sir.

Q. You don't know how far you have to go to get hold of a larger main?

A. I know where the large main goes.

Q. Where was the nearest large main to that fire then?

A. From that fire I mentioned, it was at Richard and Tchoupitoulas, about five squares down.

Q. Richard & Tchoupitoulas? Which way does it run?

A. Out Richard street to the pumping station.

Q. What uptown main is connected with that and on what street does it run?

A. I was told—I don't know of any large main going uptown.

Q. You don't know of any on Magazine street?

A. No sir.

Q. And between Magazine and the river?

A. Yes sir, one laid lately on Coliseum.

Q. When was that laid?

A. I believe in 1897.

Q. Wasn't it laid when that first fire occurred?

A. No sir; it was laid, but it was about twelve squares away from the fire I mentioned.

Q. How far was that fire from the river?

712 A. About three squares—four squares.

Q. Was there any effort to take water from the river at that fire?

A. No sir.

Q. Why not?

A. We didn't have the occasion, when we had a well at the corner.

Q. When you found the well, wasn't it sufficient, and what did you do?

A. No. 1 quit working.

Q. It was put entirely out of service?

A. Yes sir, for the time being, until No. 12 had the fire put out.

Q. You didn't look around for any other plug?

A. It wasn't necessary; we dropped into this plug.

Q. There are no plugs there you think?

A. Now there is one where Tchoupitoulas and the levee comes together and another at Celeste & Tchoupitoulas.

Q. Will you tell us, what time the second fire you spoke of occurred, and give the date?

A. I can't give the date—it was on May 24th, 1897.

Q. Daytime or night-time?

A. Night-time somewhere around morning.

Q. Well, will you state again when it was?

A. The second fire was on Chippewa street between Sorapuru and First.

Q. What is the fire distribution there—what was the water distribution there at the time?

A. We connected to the plug between Philip & Sorapuru, and when No. 1 came along and connected to another plug, and No. 1 started, No. 12 had to quit.

Q. You don't know how long that pipe has been there?

A. No sir.

Q. Now the third fire—what time of day was that?

A. July 5th. I don't know the exact time; somewhere around morning.

713 Q. What year?

A. 1897.

Q. What plug did you hook onto then?

A. Between Philip & Soropuru, on Chippewa.

Q. I was asking about the second one?

A. Well, the second was for the first fire; this place burned twice, and we had occasion to use the same plugs twice.

Q. What sort of building was it that burned?

A. Some one-story frame buildings.

Q. Was it pretty well burnt when you got there?

A. No sir; we only had to go three squares to reach it.

Q. Did you have steam on?

A. Yes sir; we had enough steam to go to work.

Q. Did you have a heater in your engine then?

A. Yes sir.

Q. How long did it take to get a line of hose out on that occasion?

A. About seven seconds at most.

Q. How long did it take you to get up a working pressure with the *g*eater on your engine, from the time you started making steam until you got enough to throw water with?

A. I couldn't say sir how long it would take.

Q. But you must know in what time your engine will become available for use, from the time you start until you get the water; when you get the alarm you undertake to make steam. Now I ask

you how long it takes you from the time you get the alarm to get your fire to make steam enough in your engine to make a pressure sufficient to throw water?

A. Well, at this fire it would take some six or eight minutes.

Q. Did you look around in that vicinity for any other connection for the engine, or was your engine pumping water?

A. Our engine was pumping water; No. 1 was idle.

Q. Who had charge of that fire to put it out?

714 A. The chief engineer and the assistant engineer.

Q. Both of them were there?

A. Yes sir.

By Mr. McLoughlin:

Q. How many engines is a well supposed to supply?

A. Well, I have seen one that wouldn't supply more than one engine. And at times they have enough to supply as many as six—about five to my knowledge, supply about six engines.

Q. From your experience as a fire engineer, what size main will one engine exhaust the water supply from?

A. I couldn't tell you.

Q. Have you ever found a main that you couldn't pull dry with your one engine—getting a full supply of water?

A. No sir,—well, I don't know whether the distribution pipe goes out St. Charles street.

Q. What I want to get at is: You take a main running along any street with six, seven, eight or ten blocks in a line, and take all the plugs—two plugs to the block—how many engines does it take to suck that dry?

A. Well, the engines will get on the feeding end and get a good supply of water, and the next wouldn't get any.

Q. What size main would you call a small main?

A. About four, six, eight.

Q. An eight-inch main would only supply one engine under those circumstances?

A. Yes sir.

By Mr. Beckwith:

Q. What is the size of the suction side of your pump?

A. No. 12?

Q. Yes.

A. Four and three-eighths.

Q. Will a suction delivery valve, I mean, open into the pump?

A. I couldn't say sir.

715 Q. Well, have you any kind of an idea how much more water, at a given pressure, will run through an eight-inch main than through a two-inch pipe?

A. No sir.

Q. Will you tell us if you have ever seen two engines take all the water at an eight-inch main?

A. Yes sir; I saw one engine take the water out of a well at the corner of Tchoupitoulas——

Q. You don't know what the size of the main was leading in the well do you?

A. No sir, but from what your inspector told me about a certain pipe, an eight-inch would only supply one engine.

Q. What man told you that?

A. Dan. Twigg.

Q. When did he tell you that?

A. When the well was first erected there.

Q. When was that?

A. Some time back in the beginning of 1897, or the latter end of 1896.

Q. Do you know with what size main that well is connected?

A. No sir, I don't know.

Q. I ask you now to tell if you ever, in your life, whatever may have been your capacity in connection with the fire-engines, if you ever saw two fire-engines exhaust the supply of an eight-inch pipe?

A. I have often seen them exhaust the pipe; I don't know about the size; it was operated underneath the ground.

By Mr. McLOUGHLIN:

Q. Were you at that St. Charles Theater fire?

A. Yes sir.

Q. How about the water supply there?

A. Well, they had a good supply there.

Q. That's right in town?

A. Yes sir.

716 JOHN BOEDINGER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. McLOUGHLIN:

Q. Mr. Boedinger, you used the water of the N. O. Water Works Co.?

A. Yes sir.

Q. Where is your place?

A. 1700 Tchoupitoulas street.

Q. Did you use the water in 1898?

A. Yes sir.

Q. And in 1897?

A. Yes sir.

Q. What did you pay at first?

A. Fifteen dollars or eighteen dollars, and the last receipt I paid twenty-three dollars.

Q. Any difference in the quantity used by you?

A. No sir.

Q. Same number of openings?

A. Yes sir, only one opening.

Q. What is your business?

A. Grocery & bar.

Q. Did they inspect—did they send an inspector up there?

A. Yes sir, Mr. Adams.
Q. The first time you got it—the first receipt?
A. Yes sir.
Q. In the next year when they raised it, did they send any inspector around again?
A. No sir.

(Witness produces receipts.)

Q. Those are the receipts?
A. Yes sir.

Counsel for plaintiff offers in evidence the two (2) receipts produced by the witness in connection with his testimony.

By the WITNESS: They said they would raise again, and I raised them out of the house.

Cross-examination by Mr. BECKWITH:

Q. When did you first take the water; what year?
A. I think it was in 1895; I am not positive.
Q. What kind of establishment have you there?
A. Grocery and bar.
Q. You mean by "grocery" selling groceries?
A. Yes sir.
717 Q. How much of a bar have you there?
A. A small bar attached to the grocery.
Q. Your family lives in the house?
A. Yes sir.
Q. How many rooms?
A. Including the bar-room and grocery—in the whole house, counting the kitchen and dining-room, there are nine.
Q. A barber shop there?
A. It is adjoining; don't concern it.
Q. Never did concern you?
A. No sir; I seen that on the receipt and I quit.
Q. Have you kept any animals there?
A. Always had a horse for my wagon.
Q. When did you get the horse?
A. Well, ten, twelve or fifteen years ago.
Q. The only horse you have out there?
A. That's all sir.
Q. You say you have only one opening; where is that?
A. In the yard.
Q. You used the water to wash glasses at the bar didn't you?
A. No sir; can't use it for that.
Q. Why?
A. It's too hard; keeps the glasses dirty.
Q. Too hard?
A. Yes sir, hard and dirty.
Q. You mean it is hard water?
A. Yes sir, I call it that, and too filthy to wash glasses with.

CHAS. LOB, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Lob, do you use the water of the N. O. Water Works Company?
A. I did, yes sir.
Q. Where did you use it?
A. At my residence.
Q. How long have you used it?
A. I have used it, I believe I am positive, from 1879.
Q. Has your supply varied since then?
A. No, I don't think.
Q. The same number of openings all the time?
718 A. Well, since 1893 we use more.
Q. What rates did you pay in the beginning?
A. $27.00, if I am not mistaken.
Q. And what do you pay now?
A. $40.00.
Q. And two years ago?
A. $40.00.
Q. What openings have you?
A. I haven't got the receipts with me.
Q. How many openings have you now?
A. Well, I couldn't tell you, but I must have three; sanitary closets, one or two downstairs and two in the yard, and in the back—two bath-rooms.
Q. Hot and cold water?
A. Yes sir, hot water comes from the hydrant—and probably a urinal.
Q. How many persons in your family?
A. Well, about six.
Q. Then I suppose its three or four servants?
A. Yes sir.
Q. In addition to the six in the family?
A. Yes sir.
Q. What is the size of your ground?
A. Eighty feet by one hundred and thirty-five.
Q. Where is it?
A. 2512 Magazine St.
Q. You pay $40.00 a year for all that service?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. Do you keep any horses or vehicles on the place?
A. No sir.
Q. Do you use the hose for watering the yard or street?
A. Watering the yard, yes sir.
Q. Not for laying the dust on the street?
A. I don't use it for that.

Q. You are sure you stated correctly all the openings you have got?

A. Well, I think I have; I can't remember now: I have three sanitary closets connected with it, with bath-rooms, hot water also, and then downstairs two faucets for the yard; one by the cistern, and one in front, and then hot-water sink in the kitchen, and one in the butler's pantry, if I am not mistaken.

719 CHAS. TOPPINO, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Toppino, you used the water of the water works company?
A. Yes sir.
Q. Where?
A. 2611 Canal street.
Q. How long have you used it?
A. Since 1894?
Q. How many pipes or openings have you?
A. One faucet?
Q. Have had the same all the time?
A. Yes sir.
Q. What did you pay in 1894?
A. $12.00.
Q. And now, 1898 I mean?
A. $15.00 up to 1898.
Q. Before last year you originally started at $12.00 and they raised you to $15.00?
A. Yes sir.
Q. Do you use more water now, or is your business different than before when you paid only twelve?
A. No sir.

Counsel for plaintiff offered in evidence the five (5) receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Between what streets is your residence?
A. 2611 Canal street between Broad & Dorgenois.
Q. What is the size of your ground?
A. 65 by 130.
Q. Where is your hydrant?
A. In the garden.
Q. Do you use it to water the garden?
A. Yes sir.
Q. What size garden have you got?
A. I suppose twenty by thirty feet; I don't know exactly.
Q. How long did you have that garden?
A. Since 1892, when I moved there.

Q. How many rooms in your house?
A. About twelve rooms.
Q. How many persons in your family?
A. My wife and four children.
Q. The same all the time?
A. No sir, at one time we had ten.
Q. What time was that?
A. Between 1894 to 1897, up to last year.

720 Jos. BURNEY Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. You keep the Welcome saloon at the corner of Gravier & Dryades?
A. Yes sir.
Q. Do you use the water of the water works Co.?
A. Yes sir.
Q. How many years have you used it?
A. Since 1893.
Q. What rate did you pay in 1898—last year?
A. I paid $23.75.
Q. Do you use a meter?
A. No sir.
Q. Did you ever pay a different rate from that?
A. $20.00 from 1893 to 1898.
Q. Did you make any change in the service?
A. From 1893 to 1898 I paid $20.00—well, I put in a bath-tub and they raised it $3.75.
Q. What service have you—have you got your bills?
A. Yes sir.

(Witness produces document asked for.)

Q. Your bill for 1898, bar-room, hydrant, bath and beer pump?
A. Yes sir.
Q. You got all those things?
A. Yes sir.
Q. It is $23.75?
A. Yes sir. I use all cistern water for the bar.

Cross-examination by Mr. BECKWITH:

Q. What is the size of your place?
A. It is about 40 feet by eighty.
Q. Is your bar-room large or small?
A. About forty feet.
Q. You do a large or a small business there?
A. Well, a pretty fair business, got no family there; don't do any cooking.

C. BENSEL Esq., sworn by plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. You are connected with No. 19?
A. Yes sir.
Q. How long have you been in the fire department?
A. Since it started sir.
Q. What is your business now?
721 A. Engineer.
Q. Of No. 19?
A. Yes sir.
Q. Have you ever been to a fire where the water supply was not enough to supply your engine?
A. I have been at one.
Q. Where?
A. On St. Charles & Burdette.
Q. When did that happen?
A. On the 30th of August 1895.
Q. Tell us the circumstances as well as you remember them?
A. There was a fire there between eleven and twelve o'clock in the day; we connected the suction onto the plug and started to work, and hardly had water enough to throw; and after the other engine arrived, No. 25, it got the water off altogether when it got below me, until about twenty or twenty-five minutes after, when the water came.
Q. Was there a second alarm for that fire?
A. I couldn't say that.

Cross-examination by Mr. BECKWITH:

Q. I couldn't hear what the location of that fire was?
A. It was on Burdette, Adams, St. Charles & Hampson.
Q. Away uptown?
A. Yes sir, in Carrollton.
Q. Where did you find the hydrant?
A. Found the plug at the corner of Burdette & St. Charles.
Q. What time of the year do you say it was?
A. In 1895. On the 30th day of August.
Q. Where is your engine-house?
A. Right on Burdette & Maple.
Q. You didn't go up St. Charles street to get to the fire?
A. I had to go there to get to the plug.
Q. You didn't go up St. Charles street—what did you go on?
A. Corner of Burdette & St. Charles and took the plug.
Q. Do you know what the size of the main is there?
A. No sir.
Q. Do you know how many plugs were around on that main, between that point and where the main strikes St. Charles street further down?
722 A. Well, the only plug I knew of was open, so that the other engine connected.

Q. You don't know how many plugs were open on that main running into the gutter?
A. No sir, I couldn't say; I don't think any.
Q. How do you know?
A. Everybody had plenty of water at that time.
Q. Was there not sickness in the town at the time?
A. Well, everybody had plenty of water just the same, and there was no plug running there that I know of.
Q. Did any other engine get water there?
A. There was one engine that came there—only two engines up there in that district, and after she took water, it cut me off altogether.—That was 25.
Q. Will you give us the hour and the day, if you can?
A. It was between 11 and 12 o'clock.
Q. In the daytime?
A. Yes sir.

N. RAMBOTIS Esq., a witness for plaintiff, deposed and said:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Rambotis, Mr. Wintz, your manager testified this morning and brought some bills from you; are those bills correct?
A. Yes sir.
Q. Do they represent the supply of water you had at the time?
A. Yes sir.
Q. No more and no less?
A. No sir.
Q. Mr. Rambotis, you say those bills are correct; here is your contract signed by you on October 22nd, 1897—have you one hydrant and a sink?
A. Yes sir.
Q. And your bill for 1897 is the hydrant in the confectionery and one sink, $15.00?
A. Yes sir.
Q. Is that correct—did you make any other contracts with them?
A. No sir.
Q. Did they make any inspection of your premises subsequent to that?
A. Yes sir.
Q. And that is the last contract you made?
Q. That is the last.

723 Cross-examination by Mr. BECKWITH:

Q. You keep a soda-water place?
A. Yes sir.
Q. And keep a fountain and confectionery?
A. Yes sir.

Capt. JOHN CRAIG, a witness for plaintiff deposes and says:

Direct examination by Mr. McLOUGHLIN:

Q. You are captain of No. 2?
A. No sir.
Q. What company?
A. Engine 12, now.
Q. Before, where were you, in 1898, last year?
A. Engine 2.
Q. That engine is located where?
A. On Magazine between Girod & Lafayette.
Q. Do you know of any fires where there was no water to put it out, or not sufficient water?
A. Well, a cork factory at the corner of Natchez & Tchoupitoulas.
Q. Do you know of any other?
A. The Dumas fire, Chartres & St. Louis.
Q. What was the reason there?
A. The cork fire, Natchez & Tchoupitoulas, we went as far as Gravier & Tchoupitoulas and took a plug there, and I sent word back to the engineer-in-chief to chase the engine up, but he said there was no water in the plug; we disconnected the plug, and went to Gravier & Front, and then had plenty of water in the gutter.
Q. Now, the Dumas fire?
A. We went and took a well there at the corner of St. Louis & Chartres; the engineer sent word back to me that his well was getting dry. The chief engineer, or Chief O'Connor sent word to the sugar refinery to force water down in the gutter.
Q. And now about the Dunn fire?
A. I notified Chief O'Connor that the water was getting so short out of the water works, and he backed the engine down, and had orders to work a little slow.

724 Q. When was that Dunn fire?
A. About 1898.

Q. Do you know anything about the supply of water on the Baronne Street main?
A. That's good water along there.
Q. But about the pressure; you opened a plug at Thalia, and connected the engine to it?
A. The plug is good, but not that one in the middle of the block.
Q. How is the pressure; is it enough to supply——
A. On Thalia—that's a small pipe along there.
Q. How about Second and Baronne?
A. Second & Baronne?
Q. Yes.
A. I have never been up there for a good while.
Q. Have you ever made any tests of the pressure?
A. Yes sir.
Q. I mean not recently, but over a year ago?
A. Yes sir.
Q. What was that?

A. I tested the plug on Tchoupitoulas between Gravier & Common—the holly plug; I brought an engine down there and made a connection, and found thirty-five pounds of water pressure there.

Q. Is that the only test you made?

A. Yes sir.

Q. How long ago was that?

A. That was about in 1898.

Q. But before that?

A. I never did.

Cross-examination by Mr. BECKWITH:

Q. Was that test made in the daytime or at night?

A. Between five and seven in the evening.

Q. Now, the cork fire, what time of the day did that occur?

A. About twenty minutes after seven in the evening.

Q. Do you remember what plug on Gravier street you hooked on to?

A. Yes sir—not on Gravier—on Tchoupitoulas near the corner, on the river side of Tchoupitoulas near Gravier; a holly plug.

Q. How long did you hang on to that plug?

A. About five minutes.

Q. How long after you got to the fire did you leave it?

725 A. About five minutes after the engineer sent word he didn't have enough water on that plug, and he made a disconnection, and went into the gutter.

Q. I understood you to say that you remained attached to that plug for some time; how long?

A. We left that plug there, and made a lead out into the back portion of Natchez street.

Q. You are not answering my question. How long did you remain there?

A. About seven minutes.

Q. In the meanwhile the well on Gravier & Fulton had been opened?

A. Yes sir.

Q. Who opened it?

A. Engine No. 2 opened it.

Q. Do you know how long the fire had been burning when it was opened?

A. No sir, I couldn't tell you that.

Q. Had not some one else attempted to open it?

A. No sir.

Q. How long after you got there was it, including the time you were holding on to the plug, before that plug was opened?

A. About ten minutes.

Q. Do you know the size of the main that feeds that well?

A. No sir.

Q. Do you know the size of the pipe delivering the water in the well?

A. No sir.

Q. A very large one isn't it?
A. I think so.
Q. Was not Gravier street flooded with water very soon?
A. Yes sir.
Q. Why did you not, knowing the character of the fire, have that well opened sooner?
A. I was at the pipe sir.
Q. Whose business is it to see that the wells are opened?
A. Well, it is left to the engineer or the stoker. If you can't get a big pressure.
Q. But somebody ought to have charge—general charge.
A. The stoker and driver.

Q. Do you know what wells there are in that vicinity that
726 could be used for that fire?

A. Yes sir.
Q. What are they?
A. Well, Poydras & Tchoupitoulas; Natchez & Magazine.
Q. Do you know of any wells on Poydras street nearer the river than Tchoupitoulas & Poydras?
A. Yes sir, Poydras & Front.
Q. Poydras & Fulton is it not?
A. Yes sir.
Q. That is a very big well?
A. Yes sir.
Q. When it is running full does it not flood the street?
A. Yes sir.
Q. Who located you at that plug?
A. Corner Gravier & Tchoupitoulas?
Q. Yes.
A. The driver of engine No. 2.
Q. Is there no one at a fire who distributes the engines for service and having the general hang of all of them?
A. Only on a second alarm.
Q. Each engine undertakes to get there first?
A. Yes sir, as quickly as possible.
Q. Do you know what the size of the main was on Tchoupitoulas street from which that hydrant led?
A. No sir; but since that fire they put a new pipe there.
Q. Did you know then?
A. No sir.
Q. Isn't it not part of your training as a fire-department man, to know the water distribution?
A. Yes sir, to know the location of plugs and wells.
Q. Is it not meet to know the size of the mains that feed them?
A. Yes sir.
Q. You never knew you were hooking to a four-inch main then?
A. On Gravier & Tchoupitoulas?
Q. Yes.
A. No; I thought that it was a larger one.
Q. You didn't know?

A. No sir.

A. The Dunn fire; where was that and when?

A. Alongside of the Picayune office, between the Item
727 office and the Picayune.

Q. What time of the day, can you give it?

A. I couldn't very well, recall that—about 1898.

Q. Can't you tell the month?

A. No sir.

Q. Do you know whether it was day or night?

A. In the morning.

Q. What do you call morning?

A. After twelve o'clock at night, between three and one o'clock a. m.

Q. Well, it was during a portion of the day that is dark?

A. Yes sir.

Q. When did you get there?

A. I got there just as quickly as possible.

Q. What hour about?

A. I couldn't say exactly when the fire was.

Q. Where was your engine located?

A. On Magazine street.

Q. What plug did you hook on to at that fire?

A. One——

Q. Where?

A. Natchez & Camp.

Q. Do you know what is the size of the delivery in that well?

A. No sir.

Q. How many engines were there?

A. Nobody was there when I got there; but afterwards some engines came in, Nos. 13, 6 and 2.

Q. Where did you undertake to get water from?

A. Out of the same well.

Q. No effort was made during the fire to take water from anywhere else?

A. All I know is, at that well, corner Natchez & Magazine.

Q. Do you happen to know the capacity of your engine to throw water—the capacity per minute?

A. No sir, I do not.

Q. Don't you know whether it throws ten or ten thousand gallons?

A. No sir.

Q. You don't know how much it will throw with a half-inch, one-inch or one-and-a-quarter-inch nozzle?

A. No sir.

728 Q. You are not educated in that?

A. No sir.

Q. So that you can't tell us how much water the three engines were taking?

A. No sir.

Q. Well, did any of them attach to any other plug?

A. At that time—yes sir. That well corner of Gravier & Camp, and Poydras & Camp, and some Natchez & Camp.
Q. Didn't they get enough water out of all of them?
A. I couldn't say about the others. I say about myself.
Q. You mean that when your three engines were pulling out of that well, there was not enough for all?
A. Not out of that well.
Q. Did they all hang on to the well and not go away?
A. Yes sir, we all stayed there.
Q. Why didn't you go somewhere else?
A. Didn't have no orders.
Q. What I am trying to find out is, who gives the orders?
A. The chief engineer and assistant engineer.
Q. Who opened the well?
A. Me and the driver of engine No. 2.
Q. Now the Dumas fire, was where?
A. Chartres street & St. Louis.
Q. Do you know the distribution there?
A. No sir.
Q. Do you know the number of water hydrants on the different mains and cross-mains there?
A. No sir.
Q. Do you know of any engine undertaking to take water from anywhere but that well until you got the water from the sugar refinery?
A. No sir.
Q. So you all just hung around that well?
A. Yes sir, engines 7, 2 & 10.
Q. Three of them?
A. Yes sir.
Q. And didn't look for hydrants anywhere else?
A. We got orders to go to a well.
Q. You go to a well and put in as many engines as you can, whatever may be the size of it?
A. No.

729 Capt. GEO. E. BULL, a witness for plaintiff, deposes and says:—

Direct examination by Mr. MCLOUGHLIN:

Q. Captain, you are connected with No. 6?
A. Yes sir.
Q. How long?
A. Six years.
Q. Your name is Bull?
A. Yes sir.
Q. What class of engine is yours?
A. First class.
Q. What is the capacity?

A. You mean throwing capacity?

Q. Yes.

A. I don't know sir.

Q. Do you know of any fires where you couldn't get enough water?

A. Yes sir.

Q. Which ones prior to 1899?

A. Well, we only got this engine about a year ago. Before that the other engines—well, at the Morris fire, the cork factory and George Sears' fire.

Q. Give us the circumstances?

A. We took for the Morris fire a position at the well at Poydras & Tchoupitoulas, and we had to leave there and go to the well at Camp & Natchez; there wasn't enough water there to supply the engines at that well. And at the cork fire, we took a plug on Poydras between Commerce & Tchoupitoulas, and when they opened the well at Poydras & Tchoupitoulas we had to disconnect from that plug and take water in the gutter; and George Sears' fire, we took the well at Poydras & Tchoupitoulas and had to get away again, and take water out of the gutter for the fire.

Q. Do you know of any others you can recall?

A. Well, we took a plug on Lafayette street once, for a fire at the corner of Carondelet & Lafayette street, and we couldn't get any water out of it; at least not enough to amount to anything.

Q. Do you know of others?

A. Another well for the fire on Thalia between Magazine
730 & Camp, but didn't go to work on it at that fire. But we found out afterwards that it wasn't sufficient to supply the engines.

Q. How did you find it out?

A. Well, it was the first time we ever connected with it, so he opened it—the engineer, and the water that came out would never supply an engine.

Cross-examination by Mr. BECKWITH:

Q. Where was that Sears fire?

A. Corner of Commerce and Poydras—feed store.

Q. What position have you got in this company or engine, captain?

A. Yes sir, captain.

Q. How long have you been captain?

A. Since the 12th of August 1898.

Q. Well, can you tell us what the water distribution is between Gravier & Poydras and Magazine and the river?

A. Well, plugs and wells.

Q. Well, how are they fed?

A. They are fed from pipes, but I don't know the sizes of the mains; I often tried to find out but couldn't. I have asked several people and no one seems to know.

Q. That is the firemen didn't know it; you asked the firemen?
A. No, sir, I didn't ask the firemen.
Q. Did you ask the fruit vendors on the street?
A. No sir.
Q. Did you undertake to select somebody you thought couldn't tell?
A. No sir.
Q. What wells are there on Poydras street between Magazine and the river?
A. Between Magazine and the river? Well, Poydras and Tchoupitoulas and Fulton and Poydras.
Q. Do you know what the size of the delivery is in that Fulton & Poydras well?
A. No sir, I don't know that.
Q. Didn't you have enough water at the well you attached
731 to, until that well was opened?
A. No sir.
Q. How many engines were pumping at the well?
A. Which fire do you mean?
Q. Sears fire.
A. I believe there was three engines there.
Q. At what time, and how long after you got there, was it, before the water came down the street from the Poydras & Fulton well?
A. Well, I should say about ten minutes.
Q. Do you know who opened that well?
A. No sir, I don't.
Q. Didn't it pretty well flood the street?
A. Yes sir, after that well was opened the supply was all right.
Q. Why wasn't it opened at once?
A. I have no idea.
Q. Is it not very probable due to the negligence on the part of the fire employees, employed by the department?
A. No sir, I don't think so.
Q. Why don't you think so?
A. Well, the men who take those wells and can't get enough water, naturally go to the next well, and leaves the water come in.
Q. Each engine then, acts independently?
A. Yes sir.
Q. At the time that well was opened at Fulton street was the chief there?
A. Yes sir, the chief was there.
Q. It was opened immediately after he got there, wasn't it?
A. It was opened about the same time he got there.
Q. How many engines were at that pump?
A. Altogether?
Q. Yes.
A. I don't know sir.
Q. Was there a second call or a general alarm?
A. A second alarm.
Q. That should bring how many engines?

A. Sometimes three, four, five, six—according to the location of the boxes.

Q. Now can you tell me the date of the month of that fire?

A. No, I couldn't tell you the month, but I can tell you the year;

732 I think it was in 1895, the latter part of 1895.

Q. At what hour of the day?

A. It wasn't in the day; it was between twelve and six in the morning, somewhere around there.

Capt. LOUIS BAUER, sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. Mr. Bauer, you are the captain of engine No. 9?

A. Yes sir.

Q. How long?

A. Since 1891.

Q. All questions I ask you have reference to before 1899, not since January 1899. Do you know of any fires you attended, where there was not enough water for the extinguishment of those fires?

A. Yes sir.

Q. Will you give me some of them?

A. There was one at the corner of St. Louis & Chartres—Dumas. We went to take a plug—or well rather, and there was three other engines besides us connected with that well, and the water went down, and we didn't have sufficient water to continue. The chief ordered the refinery to flood the gutters then.

Q. So it was the refinery water you got to extinguish the fire?

A. That company.

Q. And the others got the refinery water?

A. Well, that gave us a supply of water.

Q. Now do you remember any other fire?

A. One at the corner of Treme & Esplanade.

Q. About what time?

A. That was somewhere in 1898 I believe.

Q. What kind of a fire was it?

A. A general alarm—a residence.

Q. Did you get there on a second alarm?

A. No sir, on the first alarm, and we hitched on to the hydrant there at the corner of Treme & Esplanade, and we had to

733 leave that and pull across the street and take the well; there was not sufficient water in there to supply that fire.

Q. When you were taking the water from there, were there any engines pumping from the well?

A. Yes sir, two.

Q. Did your supply go down before or after that?

A. After they opened the well our supply went down.

Q. You remember any others?

A. No sir.

Cross-examination by Mr. BECKWITH:

Q. That fire, was it in daytime or night on Esplanade street?
A. At night sir.
Q. When you left the plug you went to the well?
A. Yes sir.
Q. And had enough water then?
A. Yes sir.
Q. Why did you say there was not enough?
A. I mean at the hydrant sir.
Q. Do you suppose when you are pumping at an eight-inch main you will get water in the hydrant?
A. I don't know sir.
Q. There was water—running water there?
A. Well, I had to go in front where I coupled—I don't know about that.
Q. Can you give us the date of the Dumas fire?
A. I can't exactly remember the date.
Q. Did any of the engines look for hydrants on the street there?
A. Yes sir, they had to take them when the second alarm struck.
Q. What streets did they hook onto plugs?
A. I couldn't tell you; I was at my pipe.
Q. So from the time the hose was laid out, you were always at the pipe?
A. Yes sir, that's where I am supposed to be.

734 Capt. ROB'T WHITE, sworn for plaintiff, deposes and says:

Direct examination by Mr. MCLOUGHLIN:

Q. You are engineer of No. 8?
A. Yes sir.
Q. For how long?
A. About eight months.
Q. Where were you in 1898?
A. I was stoker on No. 5.
Q. We want to know of things that happened before 1899. Do you know of any fires where there was not enough water to extinguish them?
A. At the well at Narchez & Tchoupitoulas. Nos. 5 & 13 were there, and we couldn't get enough water there to do service. We went into the gutter, and we couldn't do much on account of the boiler foaming.
Q. Do you know the capacity of your engine?
A. No sir, I do not.
Q. Do you know of any other fires where the supply of water was short?
A. Previous to 1899, yes sir. The engineer of No. 10, box 413, one night at Rampart street, we took a plug there, and we opened the well below us, and we got no water.
Q. Where was that?

A. Near Bourbon & Rampart.
Q. Do you remember the Roberts fire?
A. No sir.
Q. Well, do you know of any other fire now?
A. Well, no sir, not at all.

Cross-examination by Mr. BECKWITH:

Q. Well, at the fire you speak of, there was water enough in the well, wasn't there, when they opened it?
A. There was water in the well, yes sir, but when the engines got to working right well, there wasn't water for every one of us.
Q. On Rampart street?
A. Yes sir.
Q. What time of the day was it?
A. I think it was in the night.
Q. Well, what time?
A. I couldn't tell you.
Q. Well, what time of the year was it?
A. Well, I think it was around March some time.
735 Q. Will you tell me when your attention was called to these things; how and when? Who called you? When did you first know that it was important for you to remember about those fires?
A. When they called my attention to it? Right now; they might have happened years ago, but I could have forgotten.
Q. When was your attention recently called back to those fires?
A. Why before the fire board the other night; there was an investigation there.
Q. And they didn't constitute any important thing in your mind, until Saturday night last, or Friday?
A. I think it was Friday. I am not positive; they asked me about different nozzles and nipples on the plugs; they asked me the same questions, if I could remember any fires where there was not sufficient water.
Q. When you answer those questions, do you mean to say there was not water enough for your engine, or for the fire?
A. Not enough for two engines, and mine was one of the two.
Q. How many engines—on Rampart street——
A. I am talking about the cork fire now.
Q. I am talking about the Rampart Street fire?
A. I couldn't tell you how many engines were there. I know the well was opened.
Q. They got water enough at the well?
A. I couldn't tell you anything about that.
Q. All you know is that you were attached to a plug, and they opened the well, and the pressure fell at the plug?
A. Yes sir.

The list of witnesses summoned for today, being exhausted at 2.30 p. m., court adjourned until tomorrow, Thursday November 23rd, A. D. 1899, at 11 o'clock a. m.

736 STATE OF LOUISIANA, }
Parish of Orleans. }

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court before the Hon. Geo. H. Theard, judge, on the 23rd day of November, A. D. 1899, on behalf of plaintiff, and reported by M. C. Le Jeune, stenographer.

CHAS. SHUTTEN, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Schutten, where is your place of business?
A. Saloon-keeper.
Q. Where?
A. 419 St. Charles street.
Q. Have you been using the water of the water works company?
A. Yes sir.
Q. For how long?
A. Since I took the place and for one or two years.
Q. What openings or facilities have you had during that time?
A. I had a urinal and a wash-stand and a faucet leading into the kitchen.
Q. What have you been paying?
A. Well, when I bought the place from Mr. Blenk, he paid $25.00, and the next year they raised me $42.00; the following year I refused to pay; that is, this year.
Q. Did you have any increase of facilities for the consumption of water, over Mr. Blenk?
A. When I took the place he was paying $25.00.
Q. You don't understand me. He was paying $25.00 and they raised you to how much?
—. $42.00.
Q. And they attempted to raise again?
737 A. No, I just told them that I didn't care to have any more of their water any longer.
Q. Did you have any more facilities for the use of the water than he did?
A. No sir; I had one less, I think; he was using water pressure—a water-pressure pump for beer, and I cut it off.

Cross-examination by Mr. BECKWITH:

Q. When did you take charge of the premises there?
A. About two years ago.
Q. What month?

A. I think it was in February or January I am not positive.
Q. What year?
A. 1897 or 1898.
Q. How many rooms in the place?
A. In my place?
Q. Yes.
A. At the time there was only five rooms—at least seven rooms, and in my dwelling is five rooms.
Q. Your family lives in the same building?
A. Yes sir.
Q. You keep a restaurant there?
A. No sir.
Q. Just a urinal and bar-room?
A. Yes sir, bar-room.
Q. And lodging?
A. Yes sir.
Q. You had slop sinks?
A. Yes sir.
Q. One bowl?
A. Yes sir.
Q. The urinal is a perforated urinal about eight feet long?
A. I couldn't say exactly the size or measurement.
Q. The water runs in there all the time?
A. Yes sir, very slowly.
Q. You got a billiard hall connected with it?
A. Yes sir.
Q. How many tables?
A. Eight tables.
Q. Including pool tables and all?
A. Yes sir. The pool tables don't belong to me.

738 By Mr. FORMAN:

Q. Wasn't that billiard hall connected this year?
A. Yes sir.

By Mr. BECKWITH:

Q. When did you establish the billiard-room?
A. In the month of May.
Q. This year?
A. Yes.
Q. How did you use that billiard-room space, prior to that time?
A. What did I use it for?
Q. Yes.
A. It didn't belong to me; I bought the saloon.
Q. It is not in the same building?
A. Same building; but next-door building to my saloon.
Q. How many lodgers can you entertain?
A. Now, since I have the other side I can entertain about fifteen.
Q. Well, how many could you entertain in the premises other than the new one?

A. In 419?
Q. Yes.
A. About seven employees sleep upstairs.
Q. How many employees on the place?
A. About six or seven.
Q. What time in 1897 did you go in?
A. Into business?
Q. Into that building?
A. Some time in the latter part of February or in January.
Q. What connections did you cut off?
A. The only one I cut off was the urinal, and I put there one small pipe with holes in it. He had a long pipe running into the gutter and I cut off the water pressure. I let the one piece of pipe upstairs—I put one piece of pipe to it for the slop.
Q. How many since you—when did you cut off the urinal?
A. I couldn't say positively; I would have to look that up.

By Mr. FORMAN:

Q. You didn't have the billiard-room in 1897?
A. Yes sir.
Q. It had nothing to do with that saloon?
A. No sir.
Q. I understood you to say that you had cut off the beer pump?
A. Yes sir, that was after I bought the saloon from John
739 Blenk. I didn't own 423 at that time yet.
Q. Well then, in 1897, you owned what place?
A. 419 St. Charles.
Q. And you were running the coffee-house?
A. Yes sir.
Q. What facilities did you have then?
A. Wash-stand, urinal and slop pan upstairs.
Q. That was all?
A. Yes sir, I cut off the beer-pump pressure that Blenk had there running. I cut that off.
Q. And then your bill was raised from $25.00 to $42.00?
A. Yes sir.
Q. And then this year it was that you made this other addition?
A. No sir.
Q. When was it?
A. When I took the place from Blenk I made this addition.
Q. In 1897?
A. Yes sir, 1897, or the early part of 1898.
Q. What addition did you make to your water supply again then?
A. No, the only thing I cut off that beer pump and put a faucet to the upstairs pipe leading upstairs, over the slop pan.
Q. Was there no faucet there then?
A. No sir.
Q. Then you added one faucet, and to the urinal a long pipe—you added a pipe in place of what was there before?
A. Yes sir.

Q. What was there before?
A. A faucet running into a sort of pan.

SAM. HENDERSON JR., Esq., sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. Mr. Henderson, I believe you live on Henry Clay avenue?
A. Yes sir.
Q. You use the water of the N. O. Water Works Company there?
A. Yes sir.
Q. For how long?
A. Ever since—I think about six years, probably seven years.
Q. Previous to the year 1899, what water facilities did you
740 have there?
A. You mean how many openings?
Q. Yes.
A. I have a faucet in the yard for watering the garden and lawn; water-closet, and bath connections.—Three.
Q. What is the size of your yard?
A. 165 feet front and 120 feet in depth.
Q. That includes the space covered by the house?
A. Yes sir.
Q. What were your rates previous to 1899?
A. $20.00 a year I think it was.
Q. All along?
A. Yes sir, one rate all along, I think.
Q. You also represent the medical building, Mr. Henderson?
A. Yes sir, I have until within the last month or two.
Q. Previous to 1899, what water facilities did you have there?
A. We had two water-closets on each floor for gentlemen, and one for ladies; there are four floors—fifteen water-closets, I think; five urinals, and I can't be certain of the number of washstands Mr. Forman. I can't say from memory. I would have to look at the plan of the building. I didn't know these questions would be asked, or I would have been prepared. I think there are thirty-four washstands in the building.
Q. Now sir, how long since that building was erected have you been using the water of the water works company?
A. Since its erection we have used it.
Q. When was it finished and occupied?
A. In 1893, I think it was sir.
Q. Now what rates have you been paying?
A. For the past two years I think it has been—we have been paying a flat rate of $11.25 a month; previous to that we had a meter which varied from month to month very frequently.
Q. Will you be kind enough Mr. Henderson to send us the receipts if you can find them?
A. Yes sir, I can get them and will hand them to you.
Q. Now have you been paying rates on other buildings—the Fenner building?

741 A. Yes sir, up to the time Judge Fenner sold it, I had charge of it.
Q. What facilities were there?
A. Three closets, and I think three openings for water.
Q. And what were your rates there?
A. $50.00 a year.

Cross-examination by Mr. BECKWITH:

Q. What place was that last place you named?
A. One twenty-seven Carondelet street—Judge Fenner's building.
Q. That is an office building is it not?
A. Yes sir.

J. A. PLANCHARD, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You represent Mr. W. A. Gordon?
A. Yes sir.
Q. What is his business?
A. Merchandise broker sir.
Q. Where?
A. At 539 Tchoupitoulas street.
Q. Where were you in 1898 and previous to that?
A. Poydras & Magazine.
Q. Did he use the water of the N. O. Water Works Company previous to 1899?
A. Yes sir.
Q. What openings or facilities did he have?
A. A hydrant in the yard and a washstand.
Q. What rate was he paying?
A. $12.00 a year—that is, $18.00; I beg your pardon.
Q. All the time?
A. Yes sir.
Q. For how long?
A. As long as I have been there sir.
Q. How long is that sir?
A. I have been there about four years sir. Mr. Gordon gave me instructions to look up these receipts, and we moved away from where we were, and we couldn't get the other receipts; so I only brought the last receipt from his private home. Those were paid recently.

(Witness produces receipts.)

742 Q. His rates for one hydrant—for one hydrant and wash stand for several years was $18.00—previous to 1899?
A. Yes sir.
Q. What facilities did he have at his house?
A. Just one hydrant.
Q. He has here two hydrants on the bill?

A. I understood him to say it was one hydrant.
Q. You don't know of your own knowledge what he has at his house?
A. No sir.

Counsel for plaintiff offers in evidence two (2) receipts produced by the witness.

No cross-examination.

PETER BLAISE, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Blaise you are on Canal street?
A. Yes sir.
Q. You use the water of the water works company?
A. Yes sir.
Q. Previous to 1899—for how long previous to that did you use it?
A. I used it since 1893.
Q. What rates did the water works company charge you?
A. $80.00.
Q. For what facilities?
A. Well, there is one urinal and a plug on the street—two plugs which we use to sprinkle the street, and one in the yard, and a bath-tub.
Q. Is that all?
A. Yes sir.
Q. You had the same all the time?
A. No sir, not now; the last three years—the last two years I ain't getting it.
Q. You have no water at all now?
A. Yes sir I have got water.
Q. How much have you reduced during the last two years,—the supply?
A. Well, I reduced one plug on the sidewalk. I wanted to reduce two, but they wouldn't let me.
743 Q. They wouldn't let you?
A. No sir, they refused to cut it off.
Q. Why?
A. I don't know; I spoke to Mr. Gardner myself, and he told me he couldn't do it; that's two years ago.
Q. But you cut off one on the street?
A. Only one, yes sir.
Q. Had you been running any brewery?
A. Yes sir.
Q. Do you use the water for that?
A. Yes sir.
Q. What have you paid there?
A. Well, we paid about on an average of $25.00 a month.

Q. You have a meter?
A. Yes sir.
Q. How much per thousand gallons?
A. Well, we pay 15c. a thousand gallons—twenty-five cents a thousand, and it is sometimes fifteen cents.
Q. You paid as low as fifteen and as high as twenty-five cents?
A. Yes sir, when we only use fifteen thousand we pay twenty-five cents.
Q. Did you ever pay as low as fifteen cents a thousand?
A. Yes sir.
Q. That is the rates for the brewery?
A. We have it in the office.
Q. Which brewery is it?
A. The Standard brewery.
Q. Have you ever paid a flat rate there?
A. No sir.
Q. You had a meter all along?
A. Yes sir.
Q. Right from the start?
A. Yes sir.
Q. In order to compare your consumption of water with your charges, I would like to have the brewery receipts, prior to 1899?
A. Yes sir; I will do so.

Cross-examination by Mr. BECKWITH:

Q. Did you state all the openings you had in your place on Canal street?
A. Yes sir, I believe so.
Q. You have a stable there, haven't you?
A. Yes sir.
Q. How many horses and wagons there?
744 A. I had once three horses and a cow. But that is about three years ago.
Q. But you got hot-water bath?
A. What is that?
Q. Have you got a hot-water connection for a bath?
A. Yes sir.
Q. How many bath-rooms have you there?
A. One.
Q. Only one?
A. Yes sir.
Q. Where was the hydrant you used to water the street located between the two blocks?
A. Well, one on Johnson street near Canal, and one on Canal near Johnson.
Q. You are on the corner?
A. Yes sir.
Q. How many—you mean by two plugs, where the blocks start by streets?
A. Yes sir.

Q. What streets?
A. Canal & Johnson.
Q. Well then, both plugs fronted on the two streets?
A. Yes sir, what you call a hose plug.

FRANK BARKER, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Barker, have you used the water of the water works company?
A. Yes sir.
Q. For how long previous to 1899?
A. About two years.
Q. Sir?
A. About two years.
Q. What facilities have you?
—. I take it out of the garden only, and lawn—a flower garden.
Q. What is the size of your premises?
A. 60 feet front.
Q. Only one hydrant there?
A. Yes sir, one with two connections.
Q. How is that?
A. One for the chicken yard, and one for the garden.
Q. How much did they demand of you?
A. $13.00 a year.
Q. You have been paying that for the two years you have it?
A. Yes sir.

745 Cross-examination by Mr. BECKWITH:

Q. What is your cistern capacity?
A. I have two very large cisterns; I don't know what their capacity is.
Q. 5,000 gallons you think?
A. At least; probably more than that.

By Mr. FORMAN:

Q. You are president of the fire board, I believe?
A. Yes sir.
Q. What is the size of your yard?
A. Sixty-eight front on Canal.

AUGUST SEIM Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Seim, are you engaged in sprinkling the streets?
A. Yes sir.
Q. How many street sprinklers have you?
A. I have one.

Q. Have you been using the water of the water works company?
A. Yes sir.
Q. Taken from city plugs?
A. Yes sir.
Q. How much did you pay previous to 1899?
A. We don't have regular rates; they charge according to the number of blocks we sprinkle.
Q. What does the water works company charge you?
A. One dollar and a half a square for every block we sprinkle.
Q. How much have you been paying?
A. As I say, some months I pay twenty, sometimes eighteen, sometimes twenty-five and sometimes thirty. If I do a good rate of sprinkling; the more blocks I have, the more I pay.
Q. Have you any receipts with you?
A. I have two I think, or three, that's all I could find.
Q. You say one dollar and a half a square a month?
A. Previous to two years ago we made a contract with the water works company, this June past, two years, twenty blocks, twenty-five dollars.

746 Q. Is it twenty-five dollars a month?
A. Yes sir, a month for twenty squares.

Q. Is there—does it make any difference how many carts you use?
A. No sir, no difference at all.

(Witness hands the counsel two receipts for two carts.)

Q. How long have you been in the business?
A. Going on five years.
Q. These receipts in the name of J. E. Vincent, why is that?
A. That is the contract between my brother-in-law and I; we took ten squares apiece to make it even.

(Counsel for plaintiff offers in evidence five receipts produced by the witness.)

Cross-examination by Mr. BECKWITH:

Q. How many carts do you and your partner use in sprinkling?
A. Two sir.
Q. One each?
A. Yes sir.
Q. When was his contract made?
A. I think it was made in the latter part of June.
Q. What year?
A. This June past, one year, 1897.

By Mr. FORMAN:

Q. It was made before these receipts—did you contract before you got these receipts?
A. No, that is in the contract there—that is the contract J. Vincent and A. Seim.

Q. Here is one dated June 1st, 1897—nineteen dollars and a half?
A. That was before I made the contract.
Q. And here is one December 1st, 1898 for $25.75, marked "J. E. Vincent" ten and a half squares, and A. Seim, ten squares?
A. That's right.
Q. That was under the contract?
A. Yes sir.

Counsel for plaintiff states that they offer two receipts instead of five (5) as stated above.

747 E. F. DENECHAUD Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Denechaud, you are the proprietor of the Denechaud hotel?
A. Yes sir.
Q. Will you state what occurred between you and the representative of the water works company, with reference to your water supply previous to the year 1899.
A. I used to pay by the year up to 1896.
Q. How much a year?
A. It averaged I think, the first year $225, and the second year $200.00 and then $175.00; then they put me back to $200.00.
Q. During all that time did your water supply vary, or was it the same?
A. During that time it was the same sir.
Q. Well, what occurred with reference to the meter?
A. Well, in 1894 the property was sold, and Mr. Sieward bought it. He made the repairs and I went to the water works company and asked Mr. Gardner about the water, and he said, I will have to tap the main on Carondelet street under the car track, if I wanted a meter, and we brough- the pipe into the yard of J. J. Hooper. Then he ordered me to get a meter—it was an inch meter I got, through their instructions, which I think cost $37.50. Then the meter went on. The first month, by the repairs that were made to the hotel the business increased about three times as much in capacity and in business.—In fact we made money, which we didn't do before, and my bill for that, for that year, averaged about $120 or $130.00, with three times as much business as before. Now, about a year ago, or a year and a half ago, the company came to me and saw that my meter was low, and I reported to the collector "How do you want me to give you a big account of the meter when I do no business." He says, "Fix the meter." I said "You have it fixed then." He had it fixed somewhere on Camp street and
748 after it was fixed they put it back, and charged me $7.00 and something. This year they came again, about the beginning——

Q. Never mind about 1899. What meter did you get, and under whose directions?

A. Mr. Gardner sent word by his collector that I had to buy it there sir.
Q. Buy which?
A. Mr. Gardner——
Q. What meter did he tell you to buy?
A. One from the mill & supply company on Camp street, and gave me the order on a slip of paper—the Railway Mill & Supply Co. He gave me a slip of paper to get it there.

Cross-examination by Mr. BECKWITH:

Q. Who was it that gave you this slip of paper?
A. The collector of the company.
Q. What was his name?
A. The present collector—the same as they have today sir.
Q. The same one that collects your bills now?
A. Yes sir.
Q. What was it exactly that he said?
A. That I must get the meter from that place.
Q. Well please give us the whole conversation.
A. He told me I must have a meter, and it was understood that I would have to get the meter after I tapped the Carondelet Street main. I asked where to get it, and they gave me the direction, and the capacity of the meter.
Q. What you mean to say is him, and Mr. Gardner told you that if you took a meter you would have to tap the Carondelet Street pipe?
A. Yes sir.
Q. And you did that?
A. Yes sir.
Q. And you asked the collector where you could get the meter, and he told you where to get the meter?
A. Yes sir, gave me instructions on a piece of paper.
Q. What did it say?
A. Said, call for such a meter; get your meter there.
749 Q. You asked him where to get the meter?
A. Yes sir, I didn't know where to get it.
Q. You told him you didn't know where to get it?
A. Yes sir.

FRANK B. MOORE Esq., a witness on behalf of plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Your business?
A. I am a photographer.
Q. Where?
A. 147 Baronne street.
Q. You have been for several years on Canal street?
A. Yes sir, 1008 and 1010 Canal street.

Q. Have you used the water of the water works company previous to 1899?

A. Yes sir.

Q. What facilities or openings had you previous to 1899?

A. From 1896 until 1898 I had eight taps all told. That includes sinks, washstands and stationary closets and a couple of other outlets.

Q. How much were you paying?

A. Paying different rates. When I went into the building the rate was $20.00 a year; that was the first year, 1896, I believe, and when I went into the building I made a couple of alterations and cut off two taps, and added four, and they increased from $20.00 to $30.00 which remained so for two years. The last year they wished to raise my rate to $50.00.

Q. For the same supply?

A. Yes sir, same amount of business practically.

Q. But for the same number of taps?

A. I told them I couldn't afford to pay $50.00 a year, and they told me that if I signed a contract for $50.00 this year, and they told me they would give it to me for $40.00 last year, which I did. This year my rate is $50.00; last year it was $40.00.

Q. The contract was signed for two years?

A. Yes sir.

750 By Mr. KRUTTSCHNITT:

Q. The contract is in writing?

A. Yes sir.

Counsel for the defendant company object to the testimony on the ground that it is verbal evidence to prove a written contract.

By Mr. FORMAN: Where is the paper?

By the WITNESS: The water works company have it. I didn't ask for it of the company.

Q. You have no copy?

A. No sir, I didn't ask for it.

Counsel for defendant company object to the evidence on the ground that they have had no notice of this contract and that it should be produced. That they don't know whether the company has it or not.

By the COURT: The objection is sustained.

By Mr. KRUTTSCHNITT: We will withdraw the objection for the present, as we believe witness refers to another paper which we have.

By Mr. BECKWITH:

Q. Do you remember when and where this paper, which you call a contract was signed?

A. It was signed in my office at 1008 Canal street.

Q. Who brought it there?

A. The collector of the company. I can't tell his name.

Q. Did you ever sign more than one paper about it?
A. No sir, not that I am aware of.
Q. That was in 1897, wasn't it—August 1898 I mean?
A. Yes sir, 1898.
Q. Look at the paper I now hand you, (exhibiting a document to witness) and state if that is what you call the contract, and if that is not the paper you signed?
A. That is not the paper I signed.
Q. When and where did you sign this?
A. At some time or other, but I don't remember when I
751 signed it. The paper I signed was written complete; no printed matter in it at all. It was simply a written statement of an agreement between us.
Q. When was that executed?—Was it before or after this application?
A. I couldn't say that because I don't remember when I signed this; this must have been signed at some day when I was busy, because I don't remember signing it, though it is my signature.
Q. You are certain you signed a written contract, all written?
A. I am nearly sure—as near as I can remember, I think it was entirely written. At any rate it was not on their ordinary blanks.

Counsel for defendant company here renew their objection, until a call has been made for the paper, and that time be granted them to produce the paper, if they have it, with the right reserved to them, that they can renew their objection, in case the original is not produced.

By the COURT: Which objection is sustained.

Q. Your place was under a millinery store occupied by a Mrs. Logan was it not?
A. She didn't keep it at the time I was in there. I took that floor; she had retired from business when I took the lease of her place.
Q. Well, didn't you furnish water for her while she was there, and didn't she complain of the lack of pressure, and you stated you had gone to the expense of something like eight or ten dollars to put in a force pump?
A. No sir, not Mrs. Logan—that was since.
Q. Who occupied it since?
A. Mrs. L. Forstall.
Q. She kept a millinery establishment?
A. No sir, furnished rooms only.
Q. You rented the whole building and subleased to her, with the understanding that you were to supply the water?
A. No sir; the first two years I was in there I only leased
752 the downstairs floor and one room in the rear.
Q. Well, what year was the other stores leased by you to her or anybody else?
A. Since that contract—let's see, June 1897.
Q. Who occupied it then?
A. Nobody occupied it, but I leased the entire building from the

estate of Mrs. K. C. Logan, and subleased to a lady upstairs, Mrs. L. Forstall. I occupied the same property I always occupied for nearly five years, in the building.

Q. Was there any hydrant connection above the floor you occupied and those you subleased?

A. Yes sir, in the lease which I had with the landlord of the building they were to furnish water to the entire building to the extent of twenty dollars, and I was to pay the excess charges to the water works company. I have been responsible for the first two years for $10.00 per year; that was when the rate was thirty dollars. The last two years I have been responsible for $30.00 *when* and the proprietor of the building for the other $20.00. The first two years, the total water-works bill was paid by Mrs. Logan; the last year the total bill was paid by myself, and I collected the difference from the Logan estate.

Q. Well, when you were not occupying the whole building, what use or occupation was made of the portion you subleased; was it a boarding-house, a millinery-house, or what?

A. A rooming-house only.

Q. You know how many rooms there are?

A. It is a four-story building, two upper stories and top floor was not used at all. It was kept vacant for over a year; there were about seven or eight rooms, I believe.

Q. How many openings were there above the rooms you occupied?

A. Five I believe, or four.

Q. What were they?

753 A. There was a stationary closet, a bath-tub tap—an ordinary tap, and that is the one that I had to put the suction pump into to get water in the reservoir, at a fire.

Q. What do you use in your photographers' department?

A. I use an ordinary tap, and then I had one running sink with three compartments in it. We had for convenience three taps put on this one pipe to save having a rubber hose.

Q. That was for the use of your photography department?

A. Yes sir.

Q. Did you do a considerable business there?

A. Yes sir, a fair business—I wish to state for the benefit of all concerned, that ninety per cent. of my work was finished with cistern water; it was better for my use, I found. The taps were there, and we were compelled to have river water at times—an hour at a time, something like that; but the cleaner work was done by cistern water.

By Mr. FORMAN:

Q. How much cistern capacity have you there?

A. I believe, if I am not mistaken, they claim 3,000 gallons there, something like that; it is quite a big cistern—more than that; 30,000 gallons—a great big cistern, nearly three stories high; I don't know the capacity at all. It is an immense cistern sufficient for all my use. Only twice in two years that we had no cistern water.

Capt. W. J. LEE, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Captain, you are connected with the fire department?
A. Yes sir.
Q. For how long?
A. Since it started.
Q. What engine?
A. Engine 5.
754 Q. What effect has the sand in the Mississippi River water in the wear and tear on the engine?
A. I don't think it is very much.
Q. Does it have any?
A. Not to my knowledge it does not.
Q. Didn't you say before the fire commissioners the other night that the sand in the water gave you trouble and delay?
A. Delay in making the connections; it may delay sometimes—sometimes the sand was pretty heavy in the plug. I didn't say anything about wearing the pumps out though.
Q. Did you have any trouble of that sort on Baronne street?—the Benson fire?
A. I was not there at that time, and I came on the general alarm.
Q. Do you recall any fires at which there was a scarcity of water?
A. The cork factory fire.
Q. Did you ever notice any difference in the quantity of water after the first alarm, compared to the second alarm?
A. Yes sir, sometimes there is more water on the general alarm than on the first.
Q. Do you remember the date of what you call the "cork fire"?
A. No sir I don't remember exactly what day it was.
Q. Was it daytime or night?
A. It was night-time.
Q. Where was that cork fire situated—on Tchoupitoulas street?
A. Yes sir—on the downtown corner of Natchez alley?

By Mr. BECKWITH:

Q. Where did your—where is your engine-house?
A. On Julia near Baronne,—830.
Q. What time did you get to the fire?
A. What time of the night? Well, I know it was before nine o'clock at night; it was early in the night.
Q. You came on the second call?
A. No sir on the first call. We answer all first calls there.
Q. What did you attach to—a hydrant?
A. No sir, a well.
Q. Corner of Tchoupitoulas & Poydras?
A. Yes sir.
755 Q. How many engines were there before you?
A. Thirteen—No. 13, was just there ahead of us; we came nearly at the same time.

Q. Well, they say that at that well, that steam-engine stayed there, and the others went away; did yours go away?

A. We just shoved the suction into the gutter.

Q. There was no scarcity of water there?

A. Enough water in the gutter, yes sir.

Q. You mean when you say there was a scarcity of water, that there was a scarcity of water at that one well for all the engines?

A. Yes sir, in that one well.

Q. You don't mean to say there was not water enough around there?

A. No sir, we got enough out of the gutter to do good work.

Q. What class of engine is yours; is it a second-class or third-class?

A. Extra second-class engine.

Q. Do you know what its capacity is as to throwing water through the different nozzles in the main?

A. I don't know exactly; they claim six hundred gallons a minute I think; I am not sure.

Prof. A. L. METZ, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What position do you hold sir, in the Tulane University?

A. Professor of chemisty and medical jurisprudence.

Q. Were you at one time the official chemist of the board of health also?

A. I am still.

Q. Did you sir, make an analysis of the Mississippi River water for the board of health during the year 1898?

A. I did not make an analysis of water for the board of health, but did make an analysis by resolution passed by the city council.

756 Q. Did you make a report to the mayor and city council?

A. I did sir.

Q. Will you look at this printed document at page 30, entitled "A report of Dr. A. L. Metz" and state whether or not that is a printed copy of the report?

A. To all intents and purposes it is, as far as I can see, with the exception that the tabulated results are not included in this report.

Q. Are the facts in that report true?

A. The facts in this report are true sir.

Q. Will you look at these papers I now hand you, and state whether or not that is the tabulated result?

A. That is a copy; I don't know whether it is correct or not sir; it looks like my work.

Q. Is it in your handwriting?

A. This sir is not in my handwriting.

Q. Did you see that made up?

A. This?

Q. Yes.

A. I don't know whose handwriting it is sir; it is not mine.

Q. Is not that the one that accompanied your report to the city hall?

A. This, no sir. That is not my handwriting in any way, manner, form, shape or condition.

Q. Have you got a copy of the report?

A. I have in my letter book; that is evidently a copy of some sort.

Q. This bears upon the back of it, "Tabulated report of Dr. Metz, filed by Portor Parker, chairman of the legislative committee"?

A. That may be.

Q. And was produced by you before the legislative committee?

A. I did not produce that report. Those papers never passed through my hands; I never use such papers as that sir. While I have no doubt that they are correct, I don't know; I am not positive about that.

Q. I thought this was the very paper you produced before the legislative committee?

A. No sir.

757 By Mr. McLoughlin:

Q. That was produced, and you identified it and said that that is a correct copy?

A. I beg your pardon. I don't think the papers were presented to me at that session; I don't know anything about that copy.

Q. You can verify it though?

A. That would be the best way.

Q. Will you be kind enough then to furnish us with a copy of your analysis?

A. Yes sir.

Counsel for defendant company object, on the ground that the original which ought to be in the city archives, is the best evidence.

A. Those papers never passed through my hands; the original papers passed through my hands.

By Mr. McLoughlin: We call for a copy of the report.

By Mr. Kruttschnitt: We want the original.

(Witness withdrawn.)

Frank Howard, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. Forman:

Q. Mr. Howard, you live on St. Charles street opposite Lafayette square.

A. I do.

Q. How long have you used the water of the water works company there?

A. About twenty years.

Q. What facilities or openings have you there?

A. Well, now we have——

Q. Previous to 1899, please Mr. Howard?

A. We have seven water-closets, two sinks, hose-box and fountain, and about five faucets for sprinkling the lawn.

Q. You include I suppose water for the fountain?

A. Yes sir.

Q. What is the size of that pond?

A. I couldn't tell you; it is about sixty feet long I should think.

Q. More than one?

A. No, only one.

758 Q. What had been your rates?—what have you paid?

A. Since I bought the property on the rear side, I pay $100.00 a year; previous to that time it was forty dollars; but I am away about six months in the year, and the house is closed up.

Q. Have you the original or a copy of your contract with the company?

A. No sir, I never had a contract that I knew of.

Q. You never had any?

A. No sir. They sent the bill, and I paid it.

Q. You made no special agreement at all?

A. No; just paid the bills they sent me.

Q. Whatever they sent it for?

A. They never changed; it was always the same.

Q. What were your facilities when you paid $40.00 a year?

A. Well, we only had four water-closets and no lawn-sprinkler.

Q. Did you bring any bills with you sir?

A. Well, I brought what I had according to the subpœna. I don't keep receipts very long. (Witness produces receipts.) Now, I destroy my receipts after two years, but I have the checks which I can get if necessary.

Q. This bill for 1897, says, "Water supply as per agreement." What was that agreement; that is what I want to get at?

A. I don't think I signed anything. I am not sure. I don't remember. I sign so many papers I don't remember.

Q. Did you have any oral agreement that you should have all the water you wanted for $100.00 a year?

A. A man went up there, when the rate was changed to $100.00 and took account of everything in the house; took down all the number of closets, sinks, faucets and everything. It is on file with the water works company now, and Mr. Gardner sent a bill and said it was $100.00; he said that was what the rate is. Whether I have signed any agreement or not, I wouldn't be sure. I could find out.

759 Q. You had no special agreement with them, either in writing or verbal?

A. Yes, he told me the rate was $100.00; that was an agreement, and the bills have come in every year. I had a talk with Mr. Gardner, and after the man went into the house and took account of everything, and the rate was placed at $100.00.

Q. You are a stockholder of the water works Co.?

A. I am sir.
Q. And on the board of directors?
A. No sir, never was.

Cross-examination by Mr. BECKWITH:

Q. When you are absent Mr. Howard, your house is closed up is it not?
A. Yes sir, except this year; they were papering this year, but nobody lived there at all.
Q. It is not used as a residence when you are away?
A. No sir.

By Mr. FORMAN:

Q. But your lawn is kept sprinkled?
A. Yes sir, and the fountain runs, and they sprinkle the streets I suppose; at least that was the orders.
Q. Is there a street box also?
A. A hose-box, yes sir.
Q. While you are away the water is not cut off at all is it?
A. No sir.
Q. What is the average number of persons in your family?
A. Well, there are five in the family without counting the servants.

By Mr. BECKWITH:

Q. And how many servants?
A. Well, when everybody is home we have nine.

Counsel for plaintiff offers in evidence two receipts produced by the witness.

760 F. O. TREPAGNIER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Trepagnier, your business is what?
A. Commission and western produce.
Q. Where?
A. 515–517 Magazine street.
Q. What do you use—have you used the water of the water works company previous to 1899?
A. Yes sir.
Q. For how long?
A. Well, for the present company that I represent, and of which I am president for four years. Previous to that since 1878.
Q. What have been your facilities?
A. One opening in the yard.
Q. One hydrant in the yard?
A. Yes sir.
Q. What have you paid?

A. $18.00 a year.
Q. Uniformly all the time?
A. Yes sir, since 1878—$18.00 has been the regular rate.
Q. Just a business house?
A. Yes sir, business house. At my house I have the water also. I pay $18.00 for two openings; one water-closet and a hydrant in the yard; it has been so for ten years.

No cross-examination.

W. C. WILSON, Esq., a witness for plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Wilson, you are a merchant?
A. Yes sir, I am employed by Pfeifer & Co.
Q. Does that firm use the water of the N. O. Water Works Co., previous to 1899?
A. Yes sir.
Q. For how long?
A. Since 1879.
Q. What facilities have you?
A. One hydrant.
Q. One hydrant?
A. Yes sir.
Q. What is the character of that business?
A. Western produce.
Q. What have they been paying?
A. Twenty dollars.

761 Cross-examination by Mr. BECKWITH:

Q. It is a store, isn't it?
A. Yes sir.
Q. How many employees?
A. Well last year, I suppose we had, including warehousemen, twelve; eleven or twelve. It varied a little.
Q. Your business is really provision dealers?
A. Yes sir, provisions and dairy products.

ALFRED J. MALONE, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are cashier for E. F. Delbondio & Co.?
A. Yes sir.
Q. And also a commission merchant?
A. Yes sir, and dealers in western produce.
Q. Corner of South Peters & Poydras?
A. Yes sir.
Q. Previous to 1899, did he use the water of the water works company?
A. Yes since 1878, in that building.

Q. How many openings have you?
A. One hydrant.
Q. All the time?
A. Yes sir.
Q. It is an ordinary store?
A. A regular store, running from one street to another.
Q. About the same kind that Trepagnier, and Wilson and Pfeifer?
A. Yes sir, but differently situated.
Q. How much have you—has he been paying?
A. I ran over my books from October 1891—$18.00 per annum regularly.
Q. Does he use the water at any other place?
A. Yes sir, at the residence, Prytania & Josephine. I have a memorandum of it.
Q. How much does he pay there?
A. Since April 24th, 1891, to 1899, $25.00 per annum.
Q. What facilities has he there?
A. At one time there was only one hydrant in the garden.
By Mr. KRUTTSCHNITT: Do you know that personally? Can you testify as to what there was prior to the first of last January?
A. I cannot.

762 By Mr. FORMAN:

Q. Have you any receipts?
A. I have one receipt—the last receipt.
Q. Did you visit his house previous to this year?
A. No sir, not since six years; to go inside the house.
Q. When you were there six years ago, did you have any opportunity of observing what water supply he had?
A. Only one; and one in the front garden; it is visible from the street.

No cross-examination:

ALEX. HARRIS, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Harris, you are at 313 Carondelet street?
A. Yes sir.
Q. What facilities have you there for the use of the water of the water works company?
A. There is a hydrant, a wash-basin and urinal.
Q. How long have you been having those facilities?
A. I suppose for the last seven or eight years.
Q. What rate you been paying during that time?
A. $18.00 per annum.

Cross-examination by Mr. BECKWITH:

Q. What sort of business is carried on in the building?
A. Steamship agent.

Q. Of the Cromwell line?
A. Yes sir.
Q. How many clerks and occupants?
A. About six in the office, off and on.

763 JAMES WATSON, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You have been employed by Pinski Brothers?
A. Yes sir.
Q. For how long?
A. About ten years.
Q. What business are they in?
A. Wholesale commission house—general merchandise.
Q. Where?
A. Magazine between Poydras & Lafayette.
Q. Do they have the use of the water of the water works company there?
A. Yes sir.
Q. What facilities?
A. Underneath the steps in the front portion of the building.
Q. What?
A. One hydrant; very little water we use also.
Q. What are the rates—have you got the receipts?
A. Yes sir. (Witness produces receipts.) That's one for the store and one for Mr. Max Pinski's residence.
Q. These are for 1899; have you any other receipts?
A. That's all I have, from Mr. Pinski; that's all he gave me.
Q. Send Mr. Pinski here with his receipts previous to 1899, according to the subpœna.

By the COURT: You will please order Mr. Pinski to come to court, and bring his receipts for the years previous to 1899, as per his subpœna.

P. M. SCHNEIDAU, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are in the coal business, Mr. Schneidau?
A. Yes sir.
Q. On Carondelet street you have your office?
A. No. 315.
Q. Mr. Schneidau, have you previous to 1899, used the water of the water works company at that place?
A. Yes sir, since three or four years.
764 Q. Not longer than that?
A. Not at No. 315, but previous to that in another place.
Q. Did you use the water there at old number 31.
A. Yes sir.

Q. What facilities did you have there?
A. A wash-stand and one hydrant—the same as here.
Q. What rates have you been paying?
A. $15.00 a year; I have the receipts here for both places.
Q. At both places?
A. Yes sir, and I have a statement besides these receipts.
Q. You had the same facilities at both places, and have paid $15.00 at both places?
A. Yes sir.
Q. You also have a stable and yard?
A. Yes sir, at the corner of St. James and St. Thomas.
Q. How long have you used the water there?
A. Since 1888.
Q. How many horses?
A. They vary in number; sometimes sixteen, sometimes nineteen, and as high as twenty-one sometimes.
Q. What have you paid there?
A. From fifty-five to $60.00 a year.
Q. Your firm is Wood, Schneidau & Co., is it not?
A. Yes sir.
Q. Is there any family at the stable?
A. Yes sir, the stableman resides there with his family. One hydrant and one hydrant trough.
Q. Did you not, previous to 1899, use the water at your residence?
A. I have not used it for the last ten years.
Q. Did you, ever since 1878 use it?
A. I did.
Q. What facilities did you have?
A. I had a hydrant in the bath-room, and one in the garden?
Q. How much did you pay?
A. The first year I think it was $24.00, then they made it $28.00 the second year.

Counsel for plaintiff offers in evidence seven (7) receipts produced by the witness, being receipts of Wood, Schneidau & Co., and
765 four (4) more for the office building, making eleven (11) receipts altogether.

Cross-examination by Mr. BECKWITH:

Q. You reside in the same premises you did ten years ago?
A. Yes sir, and for nineteen years.
Q. Where is it?
A. On Esplanade between Marais and Villere.
Q. How large is the place—the lot?
A. One hundred and sixty-six feet deep, by 32 feet, 6 inches, wide.
Q. You have a flower garden there?
A. Yes sir, in the rear of the lot.
Q. There are no water-closets there?

A. Not at that time, no sir, just a common sink, no water was used there.
Q And no bath?
A. We had a bath-room, yes sir.
Q. You used the water to water the street?
A. No sir, we were forbidden to water the street with the water.
Q. You go through to Kerlerec street?
A. No sir. I meet the lot adjoining the Kerlerec street lot.

S. D. PETERS, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Peters, your business is what?
A. Druggist.
Q. Where?
A. Barrone & Poydras.
Q. Previous to 1899, have you used the water of the water works Co.?
A. Yes sir.
Q. What facilities have you?
A. Four openings—four hydrants.
Q. What have you been paying?
A. From 1886 to 1894 I paid $16.00, and from 1894 to 1897, $18.00, and now I pay $23.00.
Q. You paid $23.00 in 1898?
A. From 1897 to 1899.
Q. You paid twenty-three dollars?
A. Yes sir.
Q. The same number of hydrants all along?
A. Yes sir.

766 Cross-examination by Mr. BECKWITH:

Q. What openings have you, or had you during this period?
A. I have had two—I will state that up to 1896 I was on Poydras near Baronne next door to where I am now, at the corner. I always had the same openings; I had two in the store and two upstairs, and one for the family and one in the bath.
Q. You carry on any business in the premises?
A. Yes sir.
Q. What is it?
A. Retail druggist.
Q. How many families in the building?
A. Only my own.
Q. One sink?
A. One sink—two sinks in the store proper; one in the warehouse.
Q. Bath-tubs?
A. Bath-tubs, yes sir.
Q. Now you paid $18.00 didn't you at some time?

A. Yes sir, for four years?
Q. During that time you had cut off the bath-tubs?
A. Yes sir, only for a short time when I moved at the corner; I didn't use it during the next month.
Q. Didn't you have it cut off for a year?
A. No sir, not a full year; that was when I moved at the corner; I didn't have any use for it until the spring then.
Q. Was not your bill reduced on account of that bath-tub being cut off?
A. No sir, not to my knowledge.
Q. Was it not increased again when it was added again?
A. Yes sir, it was increased to $23.00.
Q. When the bath-tub was cut off it was $18.00?
A. No sir, that is what I paid when I was next door.
Q. How long have you been where you are now?
A. Three years.
Q. How long did you occupy the premises next door?
A. Ten years.
Q. In which premises was the bath-tub?
A. In both; I have had bath-tubs in both, and when I moved at the corner I didn't put it in until the spring.
Q. You run a soda fountain?
767 A. Yes sir.
Q. You have a hydrant behind the counter there?
A. Yes sir.
Q. Any others?
A. I have one in the warehouse.

By Mr. FORMAN:

Q. You had then, three hydrants and a bath?
A. Three hydrants and a bath, yes sir.
Q. Have you got your receipts?
A. No sir, I destroyed them; I have a memorandum on the check-book.

A. C. CARPENTER, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You represent the Gulf Bag Company?
A. Yes sir, I am superintendent.
Q. Where do you do business?
A. Corner of Julia & Tchoupitoulas.
Q. Have you been using the water of the water works company previous to 1899?
A. Yes sir.
Q. For how long?
A. Well, since I have been in that building sir—about six or seven years.
Q. What have been your facilities during that time?

A. I think we have twelve or thirteen openings. Some of them are closets and some are sinks.

Q. Have you had a meter all the time?

A. Yes sir—well, I don't know about all the time; we have had a meter for the past two years to my personal knowledge, and sometimes before that, but not to my own knowledge.

Q. What rates per thousand gallons have you paid?

A. Thirty cents.

Q. Uniformly, all the time?

A. Since we had the meter, yes sir.

Q. Have you any receipts with you?

A. Yes sir. (Witness produces receipts.) I don't think that that constitutes all of them. I think you will find on that receipt the number of gallons they figure per cubic foot.

Q. I notice that some are calculated at eight gallons per
768 cubic foot, and some at seven and a half gallons per cubic foot. What was the occasion of that difference?

A. Well, the inspector came around and tested the meter, and said that was the way it ran; it was originally seven and a half gallons, and to eight, and recently to nine when they recently tested it.

Counsel for plaintiff offers in evidence fourteen (14) receipts produced by the witness.

Q. Was there any time when you didn't have a meter in that building?

A. I think they paid a flat rate originally, but I don't know about that; the meter has been there ever since I have been in charge.

J. W. SAWYER, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?

A. Manager of the Continental Biscuit Company.

Q. Where is that?

A. 512–526 South Peters street.

Q. Previous to 1899, has that concern used the water of the water works company?

A. Yes sir.

Q. What facilities have you there?

A. We have a meter now, and have had since March 1st, 1898.

Q. What rates have you paid with the meter?

A. The regular scale, fifteen cents per thousand gallons over 6,000 gallons daily.

Q. You test the rate every day?

A. No sir, it is averaged at the end of the month.

Q. Have you any receipts?

A. No sir; they are pasted in our invoice book.

Q. Fifteen cents per thousand gallons?

A. Yes sir, and sometimes twenty, when it doesn't average six thousand gallons a day.

Q. Previous to the use of a meter, what facilities did you have for the use of the water?

A. I couldn't say that; it is used for manufacturing purposes, and we have a whole lot of faucets all over the three-story building.

Q. You don't know how many faucets there were?

769 A. No sir, I haven't the slightest idea.

Q. You know what you pay?

A. $500.00 a year.

Q. What did your bills amount to since you have a meter?

A. About four hundred or four hundred and twenty dollars a year. We have a stable also.

Q. Have you a meter on that?

A. No sir.

Q. What facilities have you there?

A. We have a hydrant.

Q. How many horses?

A. Fifteen head.

Q. What rate have you paid there?

A. Forty-five dollars a year; also a family live there.

Q. How many wagons?

A. Seven, I believe; it is seven or eight.

No cross-examination.

FREDERICK STAEHLE, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Staehle, what is your occupation?

A. Bakery.

Q. Where?

A. South Rampart, 406.

Q. Where is it?

A. South Rampart street, 406,–408.

Q. Have you, previous to 1899, been using the water of the water works company?

A. Yes sir.

Q. For how long?

A. About twenty-three years.

Q. What facilities—how many barrels of flour do you bake a day?

A. At present?

Q. No, did you.

A. Fifteen barrels in twenty-four hours, and as high as seventeen years ago.

Q. What are your openings, or facilities for the use of the water?

A. Two openings in the bakery—one hot water, and one cold, and two upstairs for the bath-rooms, hot and cold

Q. Is that all?
A. That's all.
Q. What were you paying?
A. Before I had the meter?
Q. Yes.
A. $80.00 a year.

Q. Did you have—how long did you pay $80.00?

770 A. From 1887 I believe, to 1895, if I am not mistaken; before that I paid less.

Q. Well, before that how much did you pay?
A. I paid $75.00, and then as low as thirty dollars when the business was smaller—in 1877 I paid $30.00.
Q. Well, in 1877, how many barrels were you baking?
A. About six.
Q. You have the same facilities for the water then—the same number of openings?
A. No sir, I didn't keep any hot-water faucets then.
Q. You just had two cold-water faucets?
A. That's all.
Q. Well now,—how came you to get a meter?
A. Because the business slacked off. I came down to twelve barrels, and they charged me the same price $80.00, and I said, they should put me a meter in.
Q. What happened then?
A. The bills averaged about forty dollars a year, I think.
Q. Did you have any trouble about getting a meter?
A. Well, they refused to give me one at first, and I went to my lawyer and then they gave me a meter.

Cross-examination by Mr. BECKWITH:

Q. Your family live in the same building?
A. Not now, no more. Not since 1888. I live uptown.
Q. How many employees did you have?
A. About six; sometimes seven, years ago I had seven.
Q. How many horses?
A. No horses.
Q. You don't deliver in wagons or carts?
A. No sir, just a stand at the market, and a boy carries a few loaves outside.

Mr. HENRY QUIRK, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Quirk you keep a restaurant on Royal street?
A. Yes sir.

Q. Have you used the water of the water works company

771 previous to 1899?

A. Yes sir. I think I have had that water for a good many years. I have some receipts here. (Witness produces receipts.)

Q. How many years?
A. A good many years; I have been in that house twenty years.
Q. What have been your facilities during that time?
A. Well, I use—I got two faucets in the kitchen; I got a filter, and I have a urinal, and a faucet upstairs. A washstand upstairs, and one downstairs.
Q. What have been your rates?
A. $55.00 a year.
Q. All the time?
A. Since I can recollect, yes sir.

Counsel for plaintiff offers in evidence the five (5) receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Where is your restaurant?
A. 135 & 133 Royal between Canal & Custom-house, near the Gem.
Q. Between the Gem and Fabacher?
A. Yes sir.
Q. You are doing a large business are you not?
A. I don't know sir; a fair business.
Q. You occupy no more than the lower story?
A. We have both floors, first and second floor.
Q. What use is made of the balance of the house, not in the restaurant?
A. We have a restaurant upstairs and a baker-house upstairs.
Q. You bake for yourself?
A. Yes sir; we make everything there.
Q. All the cooking is done there?
A. Yes sir, everything is done there.
Q. Water for the table and everything else?
A. Yes sir. We use a good deal of water.
Q. What filter have you, a Luderbach?
A. Yes sir, a Luderbach.
Q. It does not give you any trouble?
772 A. No sir, no trouble at all.
Q. Good clear water too?
A. Yes sir, the finest I have had in my life.

JOS. VOEGTLE, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Voegtle, you keep the Cosmopolitan hotel?
A. Yes sir.
Q. Previous to 1899, did you use the water of the water works Co?
A. Yes sir.
Q. For how long?
A. Ever since the house was opened—1892.

Q. Have you a meter?
A. Yes sir.
Q. All the time?
A. Yes sir, all the time.
Q. Have you any receipts with you?
A. Yes sir. (Witness produces receipts.) These are the receipts for the hose-box which are not connected with the meter.
Q. For the hose-box you pay $15.00 a year?
A. $15.00 a year.

Counsel for plaintiff offers in evidence the four (4) receipts for the hose-box, and seventy-seven (77) other receipts for the meter.
No cross-examination.

STEVE TIMLIN, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Timlin, you are an engineer in the fire department?
A. Yes sir.
Q. How long?
A. About six years now.
Q. What has been your experience with reference to the effect of sand in the water, on the wear and tear of an engine?
A. It is bad.
Q. How?
A. It cuts the chambers and valves.
Q. Do you know of any instance or time, when there was
773 a scarcity of water at fires?
A. Yes sir, I recall one time.
Q. When was that?
A. The rice-mill fire, corner Julia & Magazine.
Q. What was the matter?
A. We were attached to a hydrant there when a second engine came to the fire; we were attached to a hydrant in front. There was a general alarm turned in, and when the other plugs were used, the pressure ceased right then, and I put the suction in the gutter.—When they opened the wells on Front & Fulton, I had to take the water out of the gutter.
Q. You couldn't get it out of the plug?
A. No sir, not after the wells and hydrants were opened sir.
Q. Do you know of other occasions?
A. Yes, sir corner of Elysian Fields & the levee, another rice mill; I had to vacate the plug there and make connection with the suction from the gutter to force it on the fire.
Q. What is the reason you didn't stay at the plug?
A. We couldn't get enough pressure out of it.
Q. Couldn't get enough water?
A. Not enough of pressure—water, but not enough pressure,—not sufficient to put out a fire.
Q. Do you know of any others?

A. I went to so many I can't give the dates.
Q. Can you remember any other instances without the dates?
A. That's about all I know of, them two.

Cross-examination by Mr. BECKWITH:

Q. Can you give us the date approximately when that Ernst rice mill burned?
A. I think it was in 1897, in July, I don't know positively.
Q. What engine did you have?
A. I was with No. 5.
Q. What plug did you hook on to?
A. At the —— iron works, corner Constance and Julia, near the mill.
Q. You are now speaking of the Ernst rice mill?
A. Yes sir.
774 Q. What you mean to say is: You don't mean there was not water enough at the fire, but not enough at that particular plug?
A. There was water after the fire-wells were opened, but I had to vacate the plug.
Q. The water flowed down Poydras street?
A. No sir, but on Julia street.
Q. How long did you have to wait?
A. Sometimes about fifteen minutes—until it comes in the gutters.
Q. Until the well was opened, you had no pressure?
A. Not much, about forty or fifty pounds pressure; that's about all we had.
Q. You don't know the size of that main to which that hydrant was connected?
A. No sir, I don't know the size.
Q. Coming down to the mill fire down on Elysian Fields street; what day was that?
A. I couldn't recollect that; I think it was somewhere around about 1896.
Q. What plug did you hitch on to there?
A. On Elysian Fields & Levee.
Q. Running down Elysian Fields street or Esplanade?
A. On the north side of Elysian Fields street.
Q. Did any engines hook on to the Esplanade Street main?
A. Yes sir.
Q. They got water?
A. Yes sir, but I got none.
Q. How much pressure did you get there?
A. Somewhere around thirty-five or forty pounds; not quite sufficient to throw the body of water we wanted; we want about seventy-five pounds.
Q. Was anybody else drawing from the same main to which the plug you attached to was connected?
A. Yes sir, the engines up ahead of me.

Q. You had water before that?

A. Yes sir, they got water, and when they got to me it was a dead pressure; they took it out of the main.

775 Q. Where did the water come from that you found in the gutter?

A. It was coming from the buildings around there—all around.

Q. You took up the water and threw it over again?

A. It ran just out to the plug and I put my suction in the gutter and threw it on the fire, but not with much pressure.

Q. Why didn't you go on Esplanade street?

A. I was working under orders.

Q. And you didn't get any orders to go there?

A. No sir; we came there on a general alarm.

Q. You wasn't there first?

A. No sir.

Q. Was it on the first or second call?

A. On the second call.

Q. How many engines were there?

A. Pretty near the entire department.

Q. About how many?

A. About sixteen or eighteen I guess.

Q. Do you know how much water your engine will throw with your ordinary steam pressure, say in an inch-and-a-half nozzle, in a minute?

A. I am not a mechanical engineer.

Q. You don't know the size of the pump?

A. Yes sir.

Q. Two pump barrels or one?

A. Two pump barrels.

Q. Do you know the length of stroke?

A. Yes sir.

Q. And the number of strokes a minute?

A. No sir; I am not a mechanical engineer; I just picked it up from the firemen and stoker in the engine-house.

Q. I have been trying to find out how much water an engine will throw, that's all.

E. G. SCHLIEDER Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Schlieder, you have not produced the contract that your bills show you have with the company; have you a copy of it?

776 A. No sir, the book-keeper has it.

Q. Is it here in court?

A. No sir, I can send it to you.

Q. Did you make the contract yourself?

A. Yes sir.

Q. You made on the 1st of December 1893--according to the bills you furnished you commenced getting a flat rate of $350.00?

A. Yes sir.

Q. And previous to that you paid fifteen cents per thousand?

A. Yes sir.

Q. Do you know the circumstances under which you made that flat rate—do you remember that?

A. Well, I called on the water works company—on the president Mr. Craig, and he made that rate.

Q. How did he come to make that rate?

A. Well, we had the meter in for a while, and it registered about that amount.

Q. These amounts within the meter—your meter averaged for 1893, $939.00 a year, and the other years, $1,200.00 and $1,100; it never was as low as $700.00; how did you come to make that rate; who signed with you?

A. Nobody.

Q. How did they come to make that agreement; what was it based on?

A. Well, I don't know if at that time I put down another well or not, I don't remember.

Q. Have you made a new contract every year, or is it the same one?

A. The same thing; $700.00 a year.

Q. No new contract?

A. No sir.

Q. Did they ever inspect your works to see if you used more or less water than in 1893?

A. I don't know.

Q. Is there anybody in your works that would know?

A. I think I would know.

Q. Well, did they?

A. Not as I know of.

Q. If my recollection is right you say you used as much water under the agreement as before—about the same amount of business?

777 A. Yes sir, about the same.

Q. What I want to know is, how you got your water bill reduced so low. What representations did you make to the company to get that reduction?

A. I expect I told them, that if they didn't make a reduction I would use well water; I don't remember what reason I gave to them. I gave them the best I knew, to try and get the reduction.

Q. You say it was Mr. Gardner or Mr. Craig who made the reduction?

A. Yes sir, one of the two, I think. They didn't make a reduction; they made a flat rate.

Q. Well, anyway when you paid $1,000, and then seven hundred, it is a reduction?

A. Well yes, if that is so.

Q. This contract was made before the first of December—it began on the 1st of December before your first bill?

A. The contract was made when you see the first bill of $350.00 whatever that date is.

Q. The first bill of $350.00 is dated December 1st, 1893—that is the time the contract was made?

A. I suppose so.

Q. Did you have any correspondence at all with the company about it?

A. No sir.

Q. Did they come down at that time and inspect your house?

A. I think Mr. Gardner was down there.

Q. At the time this contract was made, or just before December 1st, 1893?

A. I think Mr. Gardner was down there.

Q. You will produce a copy of that contract and send it to us?

A. Yes sir.

No cross-examination.

778 AUGUST BOSIO, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?

A. Saloon business.

Q. Where?

A. 503 Delta street.

Q. Previous to 1899, did you use the water of the water works company?

A. Yes sir.

Q. What facilities did you have—what openings?

A. We have four now. We had four then, since we took the place in 1887.

Q. You had four since 1887?

A. Yes sir, and we had an addition which made five up to last year, when we had four, and still have four; that is, one in the kitchen, one in the yard, one in the wash-basin, and one running in the back.

Q. What rates have you been paying?

A. $42.50 up *up* to these last two years, and am paying $40.00 now.

Q. Forty-two dollars and a half up to the last two years?

A. Yes sir. Counting this receipt, up to last year, I had a reduction of $2.50; I cut off the faucet in the sink.

Q. The rest of the time you paid $42.50?

A. Yes sir, since 1887.

Cross-examination by Mr. BECKWITH:

Q. You keep a bar-room and furnished rooms?

A. No sir, only a family.

Q. A family there?

A. A family, yes sir; that's all.

WM. A. PORTEOUS Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are manager of the Postal Telegraph Company?
A. Yes sir.
Q. Do you use the water of the N. O. Water Works Company?
A. Yes sir.
Q. What facilities are there, and what are your rates?
A. Seventy ($70.00) dollars per year.
Q. Any change at all?
A. No sir.
779 Q. What are your facilities?
A. We have about four faucets—we have five—closets and and a urinal.
Q. That's all?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. How many employees have you in the building?
A. We have on an average of from seventy-five to eighty including messenger boys. Sometimes above that average.
Q. How many urinals?
A. One.
Q. Haven't you got six water-closets in that building?
A. There might be one in the Wells-Fargo & Co., office; that is adjoining; they rent from us, but I don't think so. I think we have five water-closets.
Q. You furnish water to the Wells-Fargo & Co., people?
A. Yes sir.
Q. What business do they carry on?
A. Express business.
Q. It is quite a large establishment is it not?
A. I don't think they employ any more than ten or twelve employees.
Q. They have no horses there?
A. No sir, nothing at all of that description.
Q. You rent them the premises don't you?
A. Yes sir.

JACOB ULRICH Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Engineer.
Q. You have been using the water of the New Orleans Water Works Co.?
A. Yes sir, since 1890.
Q. Since 1890?
A. Yes sir.

Q. What facilities have you?
A. Two plugs—two hydrants. We have a cistern too; we hardly use the hydrants.
Q. You have two hydrants and a sink?
A. No.
Q. Just two hydrants?
A. Yes sir.
Q. How many rooms?
A. Six; five people in the house.
780 Q. Your rate is thirteen dollars a year?
A. Yes sir, always been since 1890. That's all we could find; we had the water shut off on and off, because we didn't need it with the cistern.
Q. Do you use—what engine do you run?
A. My employment has nothing to do with that. I wouldn't say anything about that; I came from my house where I was subpoaened. I have nothing to do with the outside.
Q. You are the engineer of some bakery are you not?
A. Yes sir.
Q. They use the water there?
A. Yes sir, river water.
Q. What bakery is it?
A. The Pelican.
Q. Have they a meter there?
A. No sir.
Q. How many barrels of flour do they use a day?
A. I don't know the capacity; I have been there only about a month; I have nothing to do with that.

Counsel for plaintiff offers in evidence four (4) receipts produced by witness.

Cross-examination by Mr. BECKWITH:

Q. Where is your residence?
A. 340 S. Diamond, between South Peter and Tchoupitoulas; up at St. Mary's market. They changed the name; it used to be South Market street, and they changed it to South Diamond street.
Q. You have no sink on the second floor?
A. No sir, never had any.
Q. You have got a large cistern?
A. Yes sir.
Q. How many families there?
A. Only two families.
Q. Five persons in all?
A. Yes sir; it's been that way for the last six years. Two in one—an old couple living upstairs, and three downstairs, that's all there is in the house.
Q. You don't carry on any business?
A. No sir, none at all. None whatever.

781 PAUL PIZZINI, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep a bar-room at Delta and Poydras?
A. Yes sir.
Q. Do you use the water of the water works company, that is previous to 1899?
A. Yes sir, I use it.
Q. How long?
A. Ten years ago.
Q. What are your openings?
A. I have only two at present; I used to have more before that.
Q. How long have you had two only?
A. About a year.
Q. How much did you pay for the two?
A. I got a meter, and pay so much a thousand.
Q. How much a thousand?
A. Thirty-five cents; it used to be forty cents, thirty-five cents etc., and so on.
Q. How long have you had a meter?
A. Three or four years I believe.
Q. Have you any receipts?
A. Yes sir, some of them; I have got not all, because I destroyed some of them.

(Witness produces receipts.)
(Counsel for plaintiff offers in evidence, fourteen (14) receipts produced by the witness.)

Q. Previous to your getting the meter, how many openings did you have?
A. Five.
Q. How much did you pay a year?
A. I was paying $50.00 then; they wanted to raise me to $100.00, and I went to work and put in a meter.

Cross-examination by Mr. BECKWITH:

Q. Where did you say your bar-room was?
A. Corner of Poydras and Delta; it's there yet.
Q. Way down in the front?
A. Yes sir.
Q. How much of a building is it?
A. Well, it goes from street to street.
Q. A pretty large building?
A. Yes sir.
Q. Don't you keep a boarding-house, or furnished rooms up there?
A. No sir; I don't keep any boarding-house.
Q. How is the upper story occupied.

A. Some people sleep there.
782 Q. They don't lodge there?
A. Oh yes, but they don't board there.
Q. Well, you make a regular business of keeping people there?
A. Yes sir, lodgers, but no boarding.
Q. How many rooms have you?
A. Well, the house is about seven or eight rooms.
Q. You lodge more than one in a room?
A. Yes sir, sometimes three, four or five.
Q. They are not particular?
A. Well, I just tell you; I have to tell you what you ask me.
Q. Are they the kind of people that wash occasionally?
A. Well, when they want to wash they go downstairs and wash themselves.
Q. How often do they want to wash?
A. Well, I suppose once a week, or once a day whenever they feel like it.
Q. Then it is a kind of lodging place without washing?
A. Well, I am just telling you.
Q. Well, you do a pretty crowded business there sometimes, don't you?
A. Well, I don't know.
Q. Are there not a good many of the unwashed in that locality?
A. They don't require much water there to wash themselves. They can run to the river. It's only a block away you know, and there is a big gutter around there you know.
Q. You better tell them it is not safe to jump in the river, as one of the doctors said here.
A. All right.

J. BOUCHOUX, Esq., a witness for plaintiff, deposed and said:

Direct examination by Mr. FORMAN:

Q. Mr. Bouchouz, you have several properties?
A. Yes sir.
Q. For how many of them do you pay water rates?
A. How many hydrants?
Q. How many of those properties?
A. I have four of them.
Q. What are your facilities on each, and what do you pay?
783 A. I don't understand that exactly; me, I don't speak much English.
Q. How many hydrants have you on your properties?
A. Well, I got one hydrant and three faucets in my property, one on each story—well, you don't understand what I say.
Q. One hydrant and three faucets on one property?
A. Yes sir, one hydrant and one faucet on each story, which is a three-story building.
Q. What are your rates there?

A. I pay $15.00 for one, and I got another one, the same thing, I pay $18.00.

Q. You mean another house?

A. Yes sir, the same number of rooms; the same thing.

Q. Then there are two different pieces of property, and each have three openings or hydrants, and you pay $15.00 for one and $18.00 for the other?

A. Yes, and my neighbor has the same thing, and he pays $12.00.

By Mr. KRUTTSCHNITT: How do you know?

A. I have been there for forty years.

Q. But how do you know that?

A. I know, because I know it. Me—I pay $12.00 before you know.

Q. How do you know what your neighbor pays?

A. I know it because he told me.

Counsel for defendant company objects to this evidence as being hearsay, and it is ordered that that portion of it be stricken off.

By Mr. FORMAN:

Q. What is your neighbor's name that you refer to?

A. That is Mr. Levy; one on each side. Mr. Desangles—that's all, I believe.

Q. Have you any other property now?

A. Yes sir.

Q. Are there any more hydrants in those properties?

A. Yes sir, I got some—two.

Q. How many in the other?

A. One on each.

Q. What do you pay in those?

A. $12.00.

Q. Twelve dollars each?

A. Yes sir.

784 Q. How long have you been paying this rate?

A. Since 1866.

Q. Since 1866?

A. Yes, sir, for one of them, and the other since 1872, and the other since 1891.

Q. Have you had the same facilities all along, the same openings?

A. Yes sir.

Q. The same number all along?

A. Oh no, no, no; this one is a low house—a double cottage, and the other one is a three-story; of course there is three faucets in that one—three openings.

Q. Now let us take one house at a time.

A. I don't understand you; you better get it translated. I have the same openings since I have been paying in any of the houses.

Q. Since the beginning, and in any of the houses?

A. The same thing in all the houses I pay.

At the suggestion of counsel, the court puts to the witness the following questions in French, which the witness answers, in the latter language, and answers translated by stenographer.

Q. It is asked if there has been any change in the rate in any of the houses?
A. No sir.
Q. If there has been any raise at any time in the rates?
A. No sir; I pay $15.00 for one, and $18.00 for another one, and $12.00 for two other ones.
Q. Have you got your receipts?
A. Yes sir.—They are for 1899.
By Mr. FORMAN: Can't you find any of the old ones?
A. No sir; I don't keep that.

No cross-examination.

PHILIP KISSINGER, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You keep a bar-room on Poydras street?
A. Yes sir. Poydras & Fulton.
785 Q. Have you used the water of the water works company previous to 1899?
A. Yes sir.
Q. How long?
A. About seven years.
Q. What are your facilities or openings?
A. Three faucets.
Q. What have you been paying?
A. $25.00.
Q. All along?
A. All along.

Cross-examination by Mr. BECKWITH:

Q. You have nothing else there but a bar-room?
A. Bar-room and lunch.
Q. Not a very large place is it?
A. No sir.
Q. Not a very active neighborhood, is it—not much going on there?
A. Well, yes it is at times.
Q. It is a bar-room in your name—the water is taken in your name?
A. In my name sir.

HERMAN SCHUUR Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Mr. Schuur, where is your place of business?
A. 400 Royal street, corner of Conti.
Q. You keep a bar-room there?
A. Yes sir.
Q. Previous to 1899, did you use the water of the water works company?
A. Yes sir.
Q. What facilities have you?
A. Two openings, and a urinal and bath-room.
Q. What have you been paying?
A. Up to 1897, $30.00, and after that forty dollars.
Q. How came it to be raised; did you have any additional facilities?
A. In 1896 I put a Cleveland pump in to clear the faucet; they told me they wouldn't charge me anything for that though, because it would save waste; but the next time it was ten dollars more.
Q. How long have you been using it—the water?
A. In this place ever since 1894.
786 Q. And your rates have all along been thirty dollars?
A. Yes sir, up to 1897.
Q. Have you ever used it anywhere else?
A. Yes sir, at 1816 Barracks street, and 156 Chartres street.
Q. What were your facilities on Barracks street?
A. One opening.
Q. What did you pay there?
A. The first year I paid $20.00, then $30.00 and then $40.00.
Q. And on Royal street—I mean Chartres street?
A. It was one opening; I paid the first year fifteen, and then twenty and then $25.00.

Cross-examination by Mr. BECKWITH:

Q. What were the premises on Barracks street used for; what did you do there?
A. I keep a lodging-house there?
Q. How many rooms?
A. Fourteen rooms.
Q. How many in a room?
A. Sometimes twenty.
Q. Sometimes twenty in a room; well did you feed them there too?
A. No sir.
Q. Didn't you have a lunch place there too?
A. No sir; later I had a bar-room at the corner of Decatur and Barracks; the same house though.
Q. Well, you still kept lodgers there didn't you?
A. Yes sir.

Q. What time did you start your bar-room down there?
A. In October 1880.
Q. Now, what do you do on the Chartres Street place?
A. Kept a bar-room and had a few lodgers there; only three rooms there.
Q. Did the kind of lodgers you kept there, go ten or twelve in a room?
A. No sir, only two or three.
Q. Did you ever—who told you you wouldn't pay larger for the beer pump, the man who sold it to you?
A. The time the pump was put in, the inspector came in and said he wouldn't charge anything for the loss would be smaller.
Q. Who told you that?
A. One of the inspectors.
Q. Who was it; do you know?
A. No, I couldn't tell you.
Q. What year was that?
A. 1896.

787 CHARLES ERNST, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Your business?
A. Bar-room.
Q. Where?
A. Lafayette and Fulton.
Q. Previous to 1899, did you use the water of the water works Co.?
A. Yes sir.
Q. For how long?
A. Two years.
Q. What have been your facilities for using it?
A. I have three.
Q. Three what?
A. Wash-basin, filter and sink.
Q. How much have you paid?
A. $43.00.

Cross-examination by Mr. BECKWITH:

Q. Where is your place?
A. Lafayette & Fulton.
Q. You keep a lodging-house too?
A. Yes sir.
Q. You have a meter?
A. No sir.
Q. How many lodgers and rooms have you got?
A. About fifteen or twenty lodgers, and about that many rooms in the whole house.
Q. You have been there all the time, covered by this period that you speak of—two years?
A. Yes sir.

MAX PINSKI, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Wholesale grocer.
Q. Where?
A. 524 Magazine street.
Q. Have you, previous to 1899, used the water of the New Orleans Water Works Company at that place?
A. Yes sir.
Q. For how many years?
A. I think about two years.
Q. What are your facilities or openings?
A. One faucet.
Q. What have you paid?
A. $16.00.

Cross-examination by Mr. BECKWITH:

Q. How many employees in the place, servants included?
A. About six.
788 Q. What kind of a business is it?
A. A wholesale grocer. We only use it for washing our hands and sprinkling the store.

By Mr. FORMAN:

Q. You use it at your house also?
A. Yes sir.
Q. What are your facilities there?
A. We have one in the yard and one upstairs.
Q. How much do you pay there?
A. I pay $15.00.
Q. How long have you been paying that?
A. About two years. The year before I know I paid less, because I had a faucet put upstairs. The year before, I think it was $12.00. I don't remember now; I only had it since two years there.

EDWARD RANQUETAT Esq., witness for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Auctioneer.
Q. Where?
A. At present 622 Poydras street near St. Charles.
Q. Where were you in 1898?
A. At 518 Magazine between Lafayette and Poydras.
Q. At your place on Magazine street did you use the water of the water works company?
A. Yes sir.
Q. What openings or facilities did you have?

A. One hydrant.
Q. How much did you pay?
A. $15.00.
Q. An ordinary store?
A. Yes sir, ordinary store.
Q. Did you use it in your house?
A. No sir.
Q. How long have you paid $15.00 on Magazine street?
A. Since 1895.

Cross-examination by Mr. BECKWITH:

Q. You do a commission business in your place don't you?
A. Auctioneer and commission, yes sir.
Q. You keep a store there and have a good many employees don't you?
A. No sir; only one.
789 Q. How many stories?
A. At present only the lower floor.
Q. You don't reside there?
A. No.

ALFRED R. BARNETT, Esq., sworn for plaintiff, deposes and says:

Direct examination by Mr. BECKWITH:

Q. You are cashier for Jaeger & De Pass?
A. No sir; general manager.
Q. Have you--what business are you engaged in?
A. Wholesale willow-ware, and confectionery.
Q. Have they been using the water of the water works company?
A. Yes sir.
Q. What openings have they?
A. Only one hydrant sir, used for washing hands.
Q. How many years have they used it?
A. Well, since 1878, I think.
Q. How much have they been paying?
A. Well, they haven't been regular.
Q. What are the rates?
A. I have a memorandum from $30.00 to $58.00, going back.

(Witness produces memorandum.)

Q. Is this memorandum you have, correct?
A. Yes sir.
Q. Do you know what Mr. Jaeger pays at his house?
A. Yes sir; from $18.00 to $12.00.
By Mr. KRUTTSCHNITT: How do you know what he pays there?
A. From his books sir.

Counsel for defendant object to the testimony.

By Mr. FORMAN: Did you ever pay the bills?
A. No sir.

Q. Have you any receipts with you?
A. No sir, we fixed our receipts in the invoice book, and we couldn't find it, and I couldn't take it from that any way—that is a copy from our ledger.
Q. Has there been any change in the facilities at the store during the period indicated in this statement?
A. No sir, the same facilities.
Q. State year by year what they paid at the store?
790 A. 1889, $30.00; 1890, $30.00; 1891, $30.00; 1892, $30.00; 1893, $30.00; 1894, $30.00; 1895, $20.00; 1896, $20.00; 1897, $15.00, and 1898, $15.00.

Cross-examination by Mr. BECKWITH:

Q. What is the manufacturing operations carried on in that building?
A. Nothing but stick candy, that's all we manufacture.
Q. Stick candy?
A. Yes sir, that's all the manufacturing we make.
Q. By what process do you make it—steam?
A. No sir, we make it with fire.
Q. No vacuum pans?
A. No sir; under the old process.
Q. How many employees have you?
A. In the candy department?
Q. In all departments?
A. About ten sir.
Q. How many are employed in making candy?
A. One man and a helper, that's all.
Q. What is the other branch of manufacture there?
A. None at all sir; the other candies we get from the East and West, or the North.
Q. Do you sell them on the place?
A. Yes sir.
Q. You have a candy store?
A. Yes sir, wholesale.
Q. Were you ever on Tchoupitoulas street?
A. Yes sir, for years we were there; we have only been where we are now about two years. We were on Tchoupitoulas & Gravier.
Q. It was on Tchoupitoulas street that you paid $30.00 was it not?
A. Yes sir.
Q. Why didn't you give it so?
A. I gave the years sir; it wasn't asked me.
Q. Where was the store on Tchoupitoulas street—the factory——
—. Corner of Common & Tchoupitoulas, where Menge is now.
Q. You used that as a manufacturing place too?
A. We made nothing but stick candy there sir.
Q. You did a pretty large business did you not?
A. We did sir.
Q. When did you move from there to your present place?

A. About two years ago sir.
Q. How many people did you employ on Tchoupitoulas street?
A. The same number; never reduced or increased our force.
Q. You are now on Camp below Poydras?
A. No sir; on Magazine between Poydras & Lafayette.
791 Q. Were you never on Camp street?
A. No sir, never on Camp street.
Q. Did you ever use the hydrant water for manufacturing candy?
A. No sir, only for the purpose of washing hands; that's all.
Q. Only a single hydrant in both houses all the time?
A. All the time, yes sir.

L. LEVAND, Esq., a witness for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Your business?
A. Horses and carriage stable.
Q. Where?
A. 1019 Bienville street.
Q. Have you used the water of the water works company previous to 1899?
A. Yes sir, since 1897.
Q. Have you a meter?
A. Yes sir.
Q. What rates have you paid per thousand gallons?
A. Thirty-five cents.

Cross-examination by Mr. BECKWITH:

Q. Where is your place of business?
A. 1019 Bienville street.
Q. And in whose name is it; your name?
A. Yes sir.
Q. Undertaker establishment?
A. No; carriage and sales stable; horses and carriage stable attached to it.

It is agreed between counsel, with the court's permission, that the receipts offered in evidence, will be placed together in one invoice book, and arranged alphabetically, in order to facilitate reference.

The hour of adjournment having arrived, and counsel for all parties having agreed, together with the court's permission, this case was continued until December 4th, 1899 at 11 o'clock a. m.

792 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony for plaintiff in above numbered and entitled cause, taken in open court this 4 day of December, A. D. 1899, before the Hon. Geo. H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLaughlin, and C. C. Fredericks, for plaintiff. Attorney General Cunningham for the State. Messrs. J. R. Beckwith, E. B. Krutsschnitt, and E. Howard McCaleb, for defendants.

A. C. BELL, recalled for cross-examination, deposes and says:—

Cross-examination by Mr. KRUTSSCHNITT:

Q. When you were on the stand you were asked on cross-examination if you would produce a list and copies of the ordinances in reference to the inflow of sewerage matter into the river, and you promised to do so; have you now that list and copies of the ordinances?

A. Yes sir, I have got that list and copy of ordinances with the exception of Baldwin & Co. New Orleans national bank, Canal bank, Morris building, Pickwick Club, Masonic temple and the Hennen building; also the Mechanics' & Traders' Ins. Co. In accordance with my recollection of these the board of trade sewer is the one they empty into; now the board of trade sewer empties into the Mississippi river and there is an ordinance granting that right to empty into the river.

793 Q. Then you testify that they all empty into some one of the sewers with reference to each of which you have an ordinance?

A. Yes sir.

Q. That is the list that you produce?

A. That is the list of ordinances that I obtained.

In connection with the testimony of the witness, counsel for the defendant offers, introduces and asks to be filed in evidence the list of ordinances and copies of the same, marked Bell 11.

ARTHUR CUNEO, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Where is Mr. L. C. Arny?

A. He is in Covington.

Q. Do you work at his establishment on Bienville street?

A. On South Peters, near Poydras; those are the old receipts that you have there; we were on Bienville street and moved on South Peters street.

Q. How long have you been there?
A. About five years, now.
Q. Five years?
A. Yes sir.
Q. What facilities for water did Mr. Arny have there, in 1895?
A. I don't know anything about the water ; I looked up those receipts and turned them over to Mr. Forman.
Q. These nine receipts that you have handed me are receipts of Mr. Arny for the water supply, are they?
A. Yes sir.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence the nine receipts produced by the witness.

Q. Mr. Arny, you say, is in Covington?
A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. What sort of an establishment is that that you are carrying on?
794 A. Mineral water.
Q. What class of mineral waters?
A. Pop——
Q. Seltzer?
A. Yes sir, seltzer.
Q. Vichey?
A. Yes sir.
Q. What sort of an establishment is it, large or small—is your output large or small?
A. Large.

Counsel for plaintiff offers, introduces and asks to be filed in evidence, receipt of the water works Co. given to Judge H. Bezou, April 24th, 1898.

Also receipt given E. Adrey, meter rate at 40 cents per thousand gallons, without date, but marked as having been filed before the legislative committee June 23rd 1898.

Also receipt of the warter works company, dated November 8th *8th*, 1898, given to T. G. Brascoe, for $80. Also receipt dated June 2nd, 1891 to G. Cusachs.

Also two receipts of the city water works, one dated October 1st, 1875 and the other October 1st, 1876, issued to Anderson and Simpson, which are produced by Henry Charnock as their successor.

Also one issued to Henry Charnock, dated October 1st, 1885. Also, receipt of the city water works dated October 1st, 1871 to J. G. Eagle.

Also receipt of the New Orleans Water Works Co. issued to P. E. McAdams, dated October 1st, 1898.

Also receipt of N. O. Water Works Co. dated October 1st, 1891 issued to Wood, Schneidau & Co. Also eleven other receipts to Wood, Schneidau & Company, from the same corporation.

Also offers twenty-two (22) receipts, issued to Geo. Seiger, for meter rates; also two receipts one of April 2, 1897 and the other April, 8th, 1898, to the Garden restaurant & café, which are produced by Mr. Lampson and are offered in connection with his testi-
795 mony.

Also forty-nine receipts, produced by Mr. Sam. Henderson, issued to the Medical building, for meter rates.

Also statement and bills payable of New Orleans Water Works Company certified by R. L. McMurdo, secretary and treasurer dated June 20th, 1898.

Also certified statement of city taxes paid by New Orleans Water Works Company, made by Watson, chief clerk of the treasury; also certified statement of R. L. McMurdo, secretary and treasurer of the water works company of amount of water tax paid by private consumers and amount paid by the city.

Also certificates of E. B. Hands, meter clerk of the defendant company of the number of meters in use June 22nd, 1898.

O. M. DUNN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are superintendent of the Illinois Central Railroad Company, and of the Yazoo & Mississippi Valley?

A. Yes sir.

Q. Do those two railroads use the water of the water works company and have they for several years past?

A. Yes sir.

Q. Have you produced any receipts given by the water works company for water used?

A. No, I could not do that, because I didn't get the subpœna until three o'clock Saturday, and all the records are on file in Chicago.

Q. The records are on file in Chicago?

A. Yes sir, all the original contracts and all the receipts.

Q. Have you been using a meter?

A. We used a meter for about two years after I came to the I. C. that is from May 1893, the spring of 1893 to the spring of 1895.

Q. What were your meter rates?

796 A. I have a copy of the contract that was executed in 1893, the rates were on a sliding scale, owing to the quantity of water used. This is all that was kept; it is the only document that I could find on file in reference to it and the price ranged from 25 cents a thousand gallons down to 7½ cents—I believ- it was—owing to the number of gallons used per month.

Q. That is copy of contract you had while using the meters?

A. Yes sir and after we had paid the meter measurements for about two years then my recollection is we averaged the monthly payments for two years, and have been paying ever since by the month. $357 a month, I think it is, or $356.00; that is for the water used on locomotives and for the passenger station. I have a memorandum here that will——

Q. What is the rate per thousand gallons that you average it at?

A. We don't average it per thousand gallons; we take the monthly payments that are made under that contract, by meter measurement, take the total amount paid each month for the two years and average the payments. I don't know what it would average the thousand gallons; on that basis couldn't tell without reference to receipts covering that period.

Q. Haven't you any expense account that would give us that information?

A. Not here, sir, there would be no memorandum here that I could get it from; that would have to be obtained from Chicago; all the records are kept there. Our monthly payment, for the amount of water for locomotives and for the use of the passenger station and cleaning cars is $346.47 a month and all the payments we make outside of that for fire protection are at current rates, as I understand.

Q. What are those?

A. Twenty-five dollars a year for each opening.

Q. Twenty-five dollars a year for each opening?

A. Yes sir. That is for ordinary fire protection, for fire purposes.

Q. You mean the same kind of plugs the city use?

797 A. No, there may be some few plugs like those that the city use, but we get the supply the same as the city water from hydrants, they are located in the buildings some of them and some of them in the cotton yards, and various places where we need water for fire protection.

Q. What facilities have you at the depot buildings and the like, and for urinals and wash-basins, etc.

A. In the passenger station the supply is paid for at the rate of $346 per month.

Q. The supply for the passenger station——

A. Is included in the first item, $346 a month, and for the use of the locomotives also.

Q. Have you any data of the quantity of water you use, upon which that average was made?

A. On which we base that average; we had that data of course, it was a two-years meter measurement; I cannot give it to you here because I have not got the information. I suppose by reference to the old vouchers you could tell; I suppose it would average about eight or nine cents a thousand, something like that.

Q. Eight or nine cents a thousand?

A. Yes sir.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence, copy of contract produced by the witness.

A. That is a copy I found in my office; I didn't make the copy myself; I assume it is correct, that is all.

Objected to by defendant's counsel on the ground that it is not proved to be even a copy of a copy.

It is agreed that defendant will compare the copy with any original or copy they have in their office, and if it found not to be correct copy, they can substitute a true one.

FRANK THOMPSON, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are a member of the firm of Martin, Thompson & Co.
A. Yes sir.
Q. They are dealers in mules on Baronne street?
—. —.
798 Q. Have you, or your firm, been using the water of the water works company for several years past?
A. Yes sir.
Q. Have you a meter rate?
A. We have now, yes sir.
Q. How long have you had a meter?
A. We have had it on two occasions; a few years ago we had it and dispensed with it, and we have had it now about twelve months.
Q. What are your meter rates?
A. About $26. a month is what we average; I don't know how much water we get.
Q. What I mean to ask you is this; what was your rate per thousand gallons, when you had a meter?
A. I don't really know; never looked into it.
Q. Have you got the receipts.
A. We have, but I couldn't find any. I have my book-keeper searching for them now. Mr. Martin always attended to that branch of the business, Mr. Forman, and I know very little about it.
Q. Will you kindly find them and send them down to us?
A. I will, certainly sir, with your permission; we paid for a long time so much a year, $250. a year.
Q. You don't know what your rate per thousand gallons was, by the meter?
A. I don't but I can ascertain by bringing you the receipts down; he mislaid them and I have been looking for them for two days.
Q. How many head of stock do you have, on an average, in your stable?
A. I suppose two hundred and fifty, not exceeding that number, average; our business one-half the year is nothing and the other half the year considerably filled up.

799 FRANK THARPE, sworn for the plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are manager of F. Johnson & Co.'s undertaking and livery establishment?
A. No sir, I am not the manager, but I am connected with it.

Q. Can you give us any information whether that firm has for several years past used the water of the water works company?
A. They have been using it, yes sir.
Q. Did you bring any receipts?
A. No sir, I did not bring any receipts.
Q. The subpœna called for them; did you look for them?
A. I didn't notice that till I came down here, when it was too late to go back; I can give an idea of our last bills.
Q. Have you got a meter?
A. Yes sir.
Q. How long have you had a meter?
A. Well—since they were first introduced.
Q. Sur?
A. Since they were first introduced.

At this time the witness is withdrawn and asked to go and get his receipts.

A. None of the bills are receipted; all the receipts were taken in the receipt book.
Q. Bring the bills.
A. Will that be sufficient?
Q. I suppose the gentlemen don't want your receipt book besides.
A. We have been paying 25 cents a thousand.
Q. Twenty-five cents a thousand gallons?
A. Yes sir.
Q. Do you know how many thousand gallons you use?
A. No, I have never taken the amount of the bills; I have never taken the trouble to look at them.
Q. Please bring us as many of the bills as you can find prior to this year.
800 A. Yes sir.

(Witness is withdrawn.)

A. A. MAGINNIS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Did you at any time, ever use the water of the water works Co. for your mills, your cotton mills?
A. Yes sir.
Q. For how long?
A. Since 1882, up to date.
Q. Have you a meter?
A. Yes sir.
Q. What rate per thousand gallons do you pay?
A. Fifteen cents per thousand gallons.
Q. Did you bring any of your bills previous to 1899, with you?
A. No, I received the notice late Saturday evening and the book-keeper is now looking up the receipts since 1882, I have the data of it from my book account.

Q. Did you ever, at any time, pay a flat rate of so much a year, or so much a month.

A. Yes sir.

Q. When was that, and how much.

A. Commencing 1882, $400. a year; October 1st, 1887 to October, 1888 $500. a year; 1888 (October) to 1889 the water works Co. presented a bill and demanded and insisted upon $7500.

By Mr. KRUTTSCHNITT:

Q. Seventy-five hundred dollars?

A. Yes sir. During that time I refused to pay and during that year by the assistance of Mr. Frank Howard who was on the board of directors, a compromised of $5000 for that year was made, which was paid. The capital stock of the Maginnis cotton mills was $500,000, making one per cent. on the capital stock of the company.

By Mr. FORMAN:

801 Q. Have you got any idea of how much water you use?

A. No, not in gallons, we were running five boilers in 1882, and five boilers in 1889, of the Babcock & Wilcox make.

Q. What was the horse-power of those boilers?

A. About thirty-horse power in each boiler.

By Judge BECKWITH:

Q. To each boiler, both or each?

A. Each. I can give you more, if you wish it.

By Mr. FORMAN:

Q. Yes, we want all the information you have?

A. In 1889, knowing it was impossible to pay one per cent. on the capital stock of the company to the water works company; where my company wasn't making a dollar, necessity compelled me to put three artesian wells down in the ground. I even tried to arrange with the water works to pay them $2500 a year for the use of their water, and to use my artesian-well water too, which they most positively declined to do and refused to accept less than $500. a year; I then wrote them a letter demanding that the water works company should place a meter in the Maginnis cotton mills and charge what the law of the State of Louisiana allowed them to charge; which was done, on and after that date. With the use of the artesian water and the river water, through the meter, the bills of the Maginnis cotton mills, for the year 1890 was $1003.48, being partly Mississippi water, through the water works and artesian water. In 1891, according to the meter charge of 15 cents per thousand, the bills were $210.08; in 1892, $190.30, in 1893, $140.15, in 1894, $162.54; in 1895, $293.25; in 1896, $704.97, in 1897, $1285.78, in 1898, $786.70.

Q. Can you give any idea about the proportion that you use derived from the wells?

A. No, I cannot give you that exactly, because we are running the

water all the time; using the water and using the artesian wells, except in 1897——

802 Q. Well.

A. In 1897, my wells — almost exhausted owing to the immense number of breweries and factories drawing water from that stratum, 750-foot stratum and that reduced the level of the water in the artesian wells; so I couldn't get but very little, except in one well; that year my bill was $1285.78 at fifteen cents per thousand gallons—used almost exclusively Mississippi water.

Q. Your total consumption of water is about the same all the time?

A. Same every day in the week the year round.

Q. In those years your consumption of water was about the same?

A. About the same there can be no difference in any one week.

Q. If there are any other facts I have overlooked I will be glad to have them?

A. That is enough, 1½ per cent. on the capital stock of my company is facts enough.

Cross-examination by Judge BECKWITH:

Q. When was your cotton mill established?

A. In 1882.

Q. Has it been enlarged any since?

A. Yes sir.

Q. When was it enlarged?

A. 1889.

Q. How many spindles were there in the mill as originally constructed?

A. Twenty thousand.

Q. How many as enlarged?

A. Twenty thousand.

Q. How many, thirty——

A. Twenty thousand.

Q. You added twenty thousand?

A. Yes sir.

Q. Making forty thousand spindles?

A. Yes sir.

Q. What horse-power do you use?

803 A. Use 1,000-horse-power engine five Babcock & Wilcox boilers.

Q. I am asking you about the engines.

A. It takes boiler power to drive an engine; I am giving you that.

Q. I want to get at the horse-power of the engines?

A. One-thousand-horse power.

Q. How many engines?

A. Two.

Q. A thousand each?

A. No, 500 each.

Q. Are they condensing engines?
A. One.
Q. What style engine is that, automatic?
A. 500-horse power, Corliss make—Milwaukee Corliss.
Q. Do you run them all the time, full power, both engines?
A. Full power.
Q. Have you, during the period that you have referred to had both engines in operation all the time, or did you lay them off in the summer?
A. No, they both run the same time.
Q. Where do you take the water for condensing?
A. From the artesian wells.
Q. When did you sink the first artesian well?
A. Well, that I would have to find out from my books; but about the date I can tell you; the first artesian well was in 1888 and 1889 the second.
Q. What size well was that?
A. One was an eight-inch pipe and three six-inch pipes.
Q. And how much is the largest amount of water that they have yielded according to your best estimate; the whole of them?
A. Well, what way do you want to find out; how much they have yielded in what way, flowing capacity?
Q. You pump them, I suppose; you pump them, don't you?
A. Yes sir; about 250 to 300 gallons a minute now at the present time.
804 Q. What was the original capacity when first put down?
A. That I can't tell you; I can give you about the capacity at the present time only, by the new system remember.
Q. Was it a greater or less flow when you first put them down, than now?
A. It was a less capacity when I first put them down, I know.
Q. How many employees do you have in your mill, when it is in full operation?
A. Between eight and nine hundred.
Q. For what purposes, if any other than steam, do you use water in the factory, for bleaching or any other purpose?
A. Drinking water for the help by filteration.
Q. Do you do any bleaching.
A. No.
Q. No water used in the manipulation of cotton, between the bale of cotton and bale of goods?
A. No.
Q. No sizing?
A. Yes there is sizing, but with condensed water only.
Q. Condensed water?
A. Condensed steam.
Q. Where do you get that?
A. Get that from the condensation from the pipes.
Q. How do you heat the factory?
A. Exhaust steam.

Q. Well, there is no exhaust steam in a condensing engine?
A. No, but I only run one condensing engine; the engine that is not condensing the exhaust steam is used for heating the factory.
Q. How many water-closets and urinals?
A. How many urinals?
Q. Water-closets and urinals.
A. Five closets and five urinals.
Q. What sort of water-closets, single basin or——
A. Water-closets with the use of water for emptying.
805 Q. I know, but how much seating capacity—if that term may be used——
A. How much seating capacity?
Q. Yes.
A. I have got eight hundred employees.
Q. I am asking you about the character of these water-closets—how many bowls?
A. Got eight bowls.
Q. In each one?
A. Each what?
Q. Each closet.
A. No, got one bowl in each closet, for women, and one bowl in each closet for me-.
Q. What class of urinals have you got?
A. What size?
Q. What class are they, bowls?
A. Bowls.
Q. And perforated tubes?
A. Yes sir.
Q. Water running all the time?
A. Yes sir.
Q. How many animals, draft animals are kept on the place?
A. None.
Q. You say the capital stock of your institution is $500,000?
A. $500,000.
Q. Does that represent the full value of the property?
A. That represents the capital stock of the company.
Q. Yes, but it may be that the mill is worth more than that.
A. Probably so, at times it may have been worth less; worth more today possibly.

By Mr. FORMAN:

Q. Will you get us the receipts?
A. I have all the receipts but they are all filed away; of course this is a copy of the receipts, because it is taken from my books; (witness refers to memorandum in his hands.)
806 Q. The reason I ask you is to get the quantity used; the receipts show the quantity used?
A. Yes, I can get the receipts to show the actual quantity used since the meter has been in.

By Judge BECKWITH:

Q. You are using the water at another place—other places—are you not running mills at other places?

A. Yes sir, I was using water at the Maginnis oil & soap works, on Julia street, for a number of years.

Q. Was there any other claim embraced in that claim of $7500, than the claim for the current year's supply?

A. No other claim except for water used by the Maginnis cotton mills.

Q. Over what time?

A. For a year; for that one year; the bill was presented and they demanded the payment of $7500.00, for the water for the year 1888–1889.

By Mr. FORMAN:

Q. Just for one year, you mean?

A. One year.

Q Tell us about your supply at the mill establishment.

A. The Maginnis oil & soap works supply on Julia street?

Q. Yes.

A. The Maginnis oil & soap works, situated on Julia street, when it was built, paid $250.00 for water from the old city water works company; as soon as the water works went into the hands of the present company the price was put up to $500 and the next year to $750.00 and then the next year put up to $1000, then the next year to $1500. The last year it was put up to $1500, we contested it and refused to pay it; we then got a permit from the city hall to lay a sewer pipe to the Mississippi river, by an order of that council compelling us to do it to carry off the waste from our soap mills and in laying that pipe we placed two pipes to the Mississippi river,
807 one of sewer and one for water supply, and commenced taking our water supply from the Mississippi river, we were enjoined by the water works company through the State courts; we successfully defeated them; it was then carried to the U. S. circuit court, we defeated the water works company there and they made an appeal to the circuit court of the United States and the Supreme Court of the United States decided in favor of the Maginnis oil & soap works, that they had the right to draw the water from the Mississippi river for their own use, which coast that company $5,000 in lawyers' fees and costs of court and processes which we were compelled to pay to defend ourselves against the New Orleans Water Works Company.

By Judge BECKWITH:

Q. When was that factory—that oil-mill factory built?

A. Built, I think, in 1873; '71–'72 and '73 was the commencement.

Q. It was enlarged, wasn't it, after it was originally built?

A. No sir, never enlarged.

Q. How long did you make soap there?

A. From the date we built the factory, until the day we sold it out.

Q. What was water consumed for in that manufactory?

A. Steam power and for soap.

Q. How much horse-power did you have.

A. 168-horse power Babcock & Wilcox boilers.

Q. How much soap did you manufacture annually?

A. That I couldn't tell you without referring to my accounts and books; from memory I couldn't give you that; a small amount; small factory, merely working up the products of a cotton-seed oil mill.

Q. Can you not tell us about what your output was?

A. About ten thousand boxes a year.

Q. What other uses did you have for water on the premises; how many employees?

A. About seventy-five or eighty.

Q. How many animals, or horses?

808 A. None on those premises.

Q. Do you remember precisely in what State court you were sued by the water works company?

A. No, I don't remember what State court; but it was a matter of decisions in the courts here, and can be ascertained here.

Q. You think the record of it will be in this court somewhere?

A. Yes, I know it; W. S. Benedict was the attorney. He can give you more information in regard to the courts than I can.

R. A. Fox, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you run a laundry?

A. Yes sir.

Q. What is the style of your laundry?

A. Swiss steam laundry.

Q. Have you been using the water of the water works company?

A. Yes sir.

Q. For how long?

A. Seven years.

Q. Previous to the current year, what have you been paying?

A. Twenty-five cents a thousand; until the last year or two, reduced then to fifteen cents.

Q. Did you bring any of your receipts?

A. Well, my receipts are not signed; they are pasted in the receipt book and when the bills are paid——

Q. Have you got the bills?

A. I have the bills, but they are not receipted. They are not here with me; the receipts are pasted in a large receipt book.

Q. The bills themselves are pasted in a receipt book?

A. Yes sir; I have two receipt books; one the bills are pasted in the other—receipts.

Q. What is your consumption of water?
A. I don't know.
Q. We will have to trouble you to bring us two or three
809 bills—previous to the current year.
A. What have I got to do; tear them out of the receipt book?
Q. Suit yourself about that; your subpœna called for the production of your receipts.
A. They are not receipted, if you just want the bills.
Q. Let us have the bills——
A. How many do you want?
Q. As many as you can find previous to the current year; did you ever pay a flat rate?
A. No sir.
Q. Meter all the time?
A. All the time.

Cross-examination by Judge BECKWITH:

Q. Where is your laundry establishment?
A. On Gravier between Rampart and Dryades streets.

By Mr. FORMAN:

Q. You will send those down to me, or bring them?
A. Yes sir.

CHARLES TURCK, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You are the manager of the Singer Sewing Machine Co.
A. Yes sir.
Q. You have been using the water of the water works Co.?
A. Yes sir.
Q. What facilities or openings have you?
A. We have at the stable on Conti street one hydrant and trough; there is only one opening.
Q. How many horses or mules?
A. About eighteen; it will vary from eighteen to twenty.
Q. Where are your receipts—have you the receipts?
A. Yes sir.
Q. Do you use it at the store?
A. Yes sir, we use it at the store.
Q. What openings, or facilities have you there?
810 A. We have one urinal, one hydrant and two wash-basins.
Q. Have you got the receipts for them also?
A. Yes sir. For three years past.

Counsel for plaintiff, offer, introduce and ask to be filed in evidence six receipts produced by this witness.

Cross-examinination by Mr. BECKWITH:

Q. Where is your stable located; I didn't hear?
A. On Conti between Bourbon and Dauphine.
Q. Do you keep a livery stable or sales stable?
A. No sir, stables for our teams that we drive around the street.
Q. How many vehicles have you?
A. We run about sixteen; and have between 18 and 20 head of stock.
Q. The water trough you have there—is the water running in it all the time?
A. Not all the time.
Q. Pretty much, isn't it?
A. No sir, it is running up to the time the teams run out—up to about nine o'clock in the morning, then the water is -hut off until, about noon when they come in to feed and it runs just while the stock is there, and does not run at night.
Q. Runs during the daytime most of the day, don't it; the horses are coming in and going out?
A. Coming in and going out nearly all the time; but I mean it is not a steady flow all the time.
Q. Where is your store?
A. 931 to 933 Canal street.
Q. New number?
A. New number, yes sir.
Q. Do you remember what the old number was?
A. 91 I think, 185, that is it, it was 91 down below, next to the Godchaux building.

Plaintiff's counsel offer, introduce and ask to be filed in evidence six receipts, being for stable and running from $65 to $80, and for the store $20 a year.

By Mr. BECKWITH:

811 Q. Was there any reduction in your bill from $80.00?
A. I don't know sir.
Q. How many people did you have at the store?
A. There is about sixty in the building.
Q. Sixty?
A. Yes sir.
Q. Do you have any water-closet?
A. No sir.

ADOLPH GROSSMAN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Has your firm been using the water of the water works company?
A. Yes sir.
Q. What openings, or facilities have you?
A. We have two openings.

Q. Have you a hydrant? Have you a hydrant, water-closet, or what is it?
A. No sir, two hydrants.
Q. Two hydrants.
A. Yes sir.
Q. What is the character of your store?
A. Wholesale whiskey.
Q. How many rooms.
A. We have four floors.
Q. Each floor is one room?
A. Yes sir.
Q. It is a separate house?
A. Separate house, yes sir.
Q. How many employees?
A. Well, at the office, three.
Q. At the store?
A. Three.
Q. How much have you been paying, have you got your receipts?
A. Yes sir, twenty dollars.
812 Q. Where is your store?
A. 205 S. Peters street.
Q. What class of business do you do there?
A. Whiskey; wholesale liquors.
Q. Rectify?
A. Yes sir.

G. REIDERSCHEIMER, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Have you been using the water of the water works company?
A. Yes sir.
Q. Are those your receipts?

(Hands witness documents.)

A. Yes sir.
Q. Did you have a horse and buggy during those three years?
A. Well, I haven't had a horse and buggy for two years.
Q. Did you notify the water works Co. that you had disposed of your horse and buggy?
A. Yes sir.
Q. Did they make any reduction on that account?
A. No sir; they told me they couldn't make any reduction; they told me I had the water already too cheap.
Q. Charged you the same, whether you had a horse, or not?
A. Yes sir.

Plaintiff's counsel, offer, introduce and ask to be filed in evidence, two receipts, for $18 each.

Cross-examination by Mr. BECKWITH:

Q. Where do you reside—is it a residence?
A. Residence—yes sir.
Q. Where?
A. 2506 Canal street.
Q. How many rooms in your house.
A. Eight.
Q. How many families?
813 A. One family of three?
Q. What openings do you have?
A. Two.
Q. What are they?
A. One in the yard and one in the bath-room.
Q. For the hydrant, for sprinkling?
A. No sir; for the yard, for cleaning the gutters.
Q. What?
A. For cleaning the gutters.
Q. Do you have a hose connection to it?
A. No sir.
Q. What time of the year did you sell your horse and buggy?
A. My bill in 1898 was due in May and I told the water works Co. that I was going to get rid of my horse and buggy that month and I told them to wait on me for a few days until I could get rid of the horse and make a reduction in the bill; and they told me it was not necessary; that they couldn't make any reduction, so I paid it.
Q. For what year was that?
A. 1898?
Q. Do you remember who you had this talk with?
A. The gentleman at the counter in the office.
Q. What counter?
A. At the water works.
Q. There are several counteres there?
A. I know, but the gentleman attends to receiving the money I think.
Q. Do you know Mr. Heck?
A. I think it was Mr. Heck; gentleman with a gray mustache.
Q. Large man?
A. I don't exactly remember that.
Q. As you know the present water works company office, is there—is his desk right in front of the entrance?
A. Yes sir, right as you go into the door.
814 Q. No water-closet in your house for which the water is used?
A. No sir.

E. W. SMITH, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you have something to do with the Troy laundry?
A. Yes sir.
Q. Does that establishment use the water of the water works Co.
A. Yes sir.
Q. How long?
A. Ever since it has been established, 1883.
Q. You have a meter?
A. Yes sir.
Q. All the time?
A. No.
Q. When did you get a meter?
A. Well, the meter was put in in 1893.
Q. Before you got the meter, what were you paying?
A. Well, I just had a chance to look at the books a few minutes this morning, because I was sick all last week; I didn't bring any receipts, or anything, but in 1889 and 1890 we paid $300 a year; in 1891-'92 paid $450 a year; after that the meter was put in.
Q. How much a thousand were you paying under the meter?
A. 15 cents a thousand gallons.
Q. How long have you been paying that?
A. Since 1893.
Q. How much does that amount to a year?
A. It amounts to between 8 and $900. It varies, according to the manner in which our business varies; now for instance we use 700,000 gallons some months, other months we use 400,000.
Q. How does your consumption of water in a year compare during the time you had no meter, with the time you had a meter?
A. I am hardly competent to say, because I was not connected with the company at that time.

Q. Can you not send us some of the bills, or receipts for
815 several years past?

A. Well, I will make an effort to do so; but I can send you bills and receipts from the time I have been there.

By Mr. KRUTTSCHNITT:

Q. You have not been there but for a year or two?
A. Two years.
Q. We don't want anything subsequent to the 23rd of January of this current year.
A. Yes, I will send them to you when I come back.

Cross-examination by Judge BECKWITH:

Q. You know nothing of the business, individually, prior to the time you went there, but since that—it is a business that fluctuates?
A. Yes sir.
Q. In the amount of patronage you get, up and down?

A. Very much.

Q. How do you manage to wash with the Mississippi River water; you are pretty much the only one we have found that could; they can make soda water out of it, but they cannot wash clothes, they say; how do you manage to wash clothes down there with Mississippi River water?

A. Well, we have a filtering capacity of several hundred thousand gallons a day, if necessary; we filter it ourselves.

By Mr. FORMAN:

Q. How much does it cost to filter?

A. Well, I wouldn't like to hazard a guess, without looking at the books; I could tell by looking at my books; I would not like to give a guess at it.

By Judge BECKWITH:

Q. You can tell about how much alum*n* you use, I suppose?

A. Yes, the cost of filtering is nominal; it does not amount to hardly anything; we use, I presume about a barrel of alum*n* a month; costs us seven or eight dollars, depends upon the weight of the barrel.

816 GEORGE D. THOMAS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you were, for a long time, employed by the water works company, were you not?

A. Yes sir, nearly twenty years.

Q. In what capacity?

A. Spannerman.

Q. Can you tell us any place *t*here there is not a sufficient supply of water for extinguishing fires, or the pipes do not deliver water enough to extinguish fires?

A. There is only three places where the well wouldn't supply two engines; that I know.

Q. Three fire-wells?

A. Yes sir; in my district that I used to attend to.

Q. Where were those three fire-wells that wouldn't supply two engines.

A. One at Robin & St. Thomas street.

Q. Where were the others?

A. On- at Terpsichore and Front, and one at Felicity road and Tchoupitoulas.

Q. Do you know of any fire-plugs that would supply two engines?

A. Supply one engine.

Q. Sir?

A. Of course, if there is a pipe running straight along if one engine goes below it will take the water.

Cross-examination by Judge BECKWITH:

Q. Do you know the size of the pipes at the wells you speak of, as not being able to supply three engines? Do you know the pipes they are attached to?
A. Six-inch pipes with four-inch openings.
Q. Which one is a six-inch pipe?
A. The one on Terpsichore & Front.
Q. The one on Terpsichore and Front?
A. Yes sir.
817. Q. How do you know?
A. Because I have seen it laid.
Q. What was the next well you spoke of?
A. Tchoupitoulas and Felicity road.
Q. Do you know what main that is connected with and what opening into the well?
A. At St. Thomas street it is an eight-inch and from there it is a six-inch, with a four-inch opening into the well.
Q. You are sure about the four-inch opening into the well?
A. Yes sir, I seen it put in.
Q. The other well that you spoke of, where was that?
A. Corner of Robin and St. Thomas.
Q. Corner of Robin and St. Thomas?
A. Yes sir, right at the Louisiana cotton press.
Q. To what main is that connected?
A. That is connected to the six-inch that goes down St. Thomas street; it is pretty near the end of the pipe.
Q. Well, what is the size of opening into the well?
A. It is four inches.
Q. Size of the other is four-inch?
A. Yes sir.
Q. Sure of that?
A. Seen it put in.
Q. When was it put in?
A. I couldn't just exactly tell you; I don't like to say; but it was five or six years ago.
Q. When were the other two wells put in?
A. The same time; they were all the new wells put in.
Q. When did you leave the employ of the company?
A. About two years and a half ago.

C. THOMAS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you are a gardener at the corner of 7th and Magazine?
A. Yes sir.
818 Q. Have you ever used the water of the water works company?
A. Not in the garden.

Q. Have you ever used it anywhere?

A. I use it at the house, at my yard I have not got any garden, but I use the water—just got a bar-room there.

Q. Have you ever used the water of the water works Co. anywhere?

A. At the house where I am living—I haven't got any garden there.

Q. What facilities or openings have you?

A. I have just got one faucet there.

Q. One faucet?

A. Yes sir.

Q. How much do you pay, or have you paid?

A. I paid eighteen dollars a year.

Q. What is the size of your house?

A. I got a two-story house—got six rooms there.

Q. What is the size of your family?

A. Got six in the family.

Q. For one hydrant you pay $18 a year?

A. Yes sir.

Q. How long have you been paying that?

A. Just one year; the second year when I didn't use water for what I wanted it for, I had it shut off.

Q. What did you use it for—what did you want it for?

A. I wanted to use it in the bar-room; but the water was so muddy I couldn't use it; so I used cistern water; when I told them I just wanted simply to use it in the yard and to make a reduction and if they would do that, I would keep it, otherwise I would shut it off.

Q. If they didn't make a reduction you would shut it off?

A. Yes sir.

Cross-examination by Mr. BECKWITH:

Q. What year did you have the water?

A. It expired in the month of April.

Q. What year?

819 A. This year; that was as far as I paid, so I went down to the office and I told them I don't use the water for anything except for my horse.

Q. You are talking about what occurred since January?—January last?

A. No, since April, that is when the time was up.

Q. Yes, but it was in April of this year, wasn't it?

A. This year, yes sir.

Q. What time did you take it?

A. A year ago; I only had it one year; I had the water works put in and had it one year and they sent me a bill for using the water for the bar-room and horse; and I told them, I said I didn't use the water in the bar-room; I just used it in the yard for my horse, didn't use it in the house at all.

Q. How many horses have you got?
A. One.
Q. How many wagons?
A. One.

A. F. BULTMAN, sworn for plaintiff, deposes and says:—

Direct examination by Mr. FORMAN:

Q. I believ- you are an undertaker?
A. Yes sir.
Q. Now, previous to January 1899, have you been using the water of the water works company?
A. Yes sir.
Q. Have you a meter?
A. No sir.
Q. How many horses have you?
A. Well, I have fifteen.
Q. What openings, or facilities have you?
A. One opening.
Q. One hydrant?
A. Yes sir.
Q. How much have you been paying?
A. Well, I have paid different prices, according to my bills.
820 Q. Let's have them?

Witness produces documents.

Q. Did you also use the water at your house?
A. Well, this year I have a closet upstairs.
Q. We are not talking about this year.

Counsel for plaintiff produces, offers and asks to be filed in evidence five receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Where is your establishment?
A. 2917 Magazine street. Between Six & Seventh.
Q. Between Sixth and Seventh? Is your family living in this building?
A. Yes sir.
Q. How many are there?
A. In the family?
Q. Yes.
A. Eleven.
Q. How many horses?
A. I have fifteen.
Q. How many vehicles or carriages?
A. Only twelve all told—some in the shop.
Q. There's no water troughs, urinals, or other openings besides the hydrant?
A. No sir.

JOHN H. DOYLE, sworn for plaintiff deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your business?
A. Wholesale grocery—rectifying.
Q. Have you for several years past been using the water of the water works company?
A. Yes sir.
Q. For how long?
A. As long back as I can remember, but in the particular store we are in now—we have only been there for two years.
821 Q. Where before the two years did you use it?
A. On Poydras street.
Q. What facilities did you have?
A. You mean the number of openings?
Q. Yes.
A. About the same as we have now—four openings.
Q. Four openings?
A. Yes sir.
Q. What were you paying?
A. Well, I had the receipts looked up of the firm yesterday, but couldn't find them; for the present store I have one of the receipts and the other was about the same as it is at present.
Q. For four openings?
A. Yes sir.
Q. What was the size of the store?
A. Two stories.
Q. And the number of employees?
A. About 18 or 20.
Q. And you- payments were about the same and your number of employees about the same all the time?
A. About the same—well no, I suppose some years ago our employees were about double; but at present there are 18 or 20.
Q. But your rates for water were the same all the time?
A. About the same, yes sir.

Cross-examination by Judge BECKWITH:

Q. Where are your stores?
A. 531 to 533 Tchoupitoulas street.
Q. What business?
A. Wholesale groceries and rectifying.
Q. What openings have you?
A. Four.
Q. I know, but what are they?
A. Well, there are two basins and two hydrants.
822 Q. You use the water in rectifying?
A. Yes sir, probably five hundred gallons a day.

Dr. A. L. METZ, recalled.

Direct examination by Mr. FORMAN:

Q. Have you now a copy of the analysis that you made?
A. Yes sir, this is a copy of the tabulated report that I submitted to the city counsel.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence the document referred to, same being on yellow tissue copying paper.

Cross-examination by Judge BECKWITH:

Q. Can you tell us where this water was taken from; the water dealt with in this analysis; where did you take it from?
A. Some was taken from the laboratory pipes; some was taken from the intake pipe of the New Orleans water works—some was taken from mid-stream.
Q. From where?
A. Mid-stream.
Q. Is there anything in this tabulation to indicate on what occasions the water was taken from the river; or on what occasion it was taken from the pipes?
A. Yes sir, the dates are given.
Q. The dates are given, but I ask if the tabulation shows it?
A. Yes sir, the tabulation should show it; if that is a copy of the report you will find that it is tabulated.
Q. This is a report—I assume it is the same thing; it is one that was given us there.

Counsel refers to a report contained is several sheets of paper, which he hands to the witness.

A. This was taken out of the laboratory spigot.
Q. That is the first page?
A. Yes sir, I will not be too sure about this item.
Q. This is the one given us as a copy and it is better reading—it is the same thing?
823 A. This is simply taken from mid-stream at Southport. Water taken from the supply pipe laboratory medical department, Tulane university November 17th, 1896—it is tabulated.

Counsel hand- witness yellow sheets.

Q. Is that the one you produced?
A. That corresponds, Judge, it might not be in the same order as the one you have, but the- correspond; I dare say.
Q. I would like you to state if you can, by your letter press, whether the tabulation of the first sheet is from water taken from the mains or from the river?
A. I cannot answer that question positively; I am under the impression it was taken from the main.
Q. Then the second sheet——

A. They are not in the same order (Counsel and witness compare reports.)

Q. I wish you would designate here—by some mark if you can—designate the table that stands second in this sheet, by some mark.

A. The second sheet of this (referring to report on heavy paper) is the first sheet of the report on yellow paper; and the fourth here (refers to yellow paper) is the third sheet of your report; those are given on here.

Q. Will you please examine that tabulation presented by you today, and state, if you remember, from what sources the water was taken on the dates, as examined; on April 10th 1896, April 25th and May 7th.

A. I cannot state at this time whether it was taken from the laboratory spigot; I am under the impression it was taken from the spigot.

Q. Does that apply to the whole of the sheet, that answer?

A. That applies to the sheet marked 1896, beginning with April 10th and ending with December 31st—it has a special mark—"combination with sea water as proven by * * * or magnesia choride." You will find it at the bottom of the page.

Q. I find the sheet marked "Tabulated report of sanitary
824 analysis of Mississippi River water, made for the month of November, 1896."

A. Yes sir.

Q. Was the water in that case taken as indicated at the head of the column?

A. Yes sir, as indicated in the margin.

Q. Now, sheet marked "Tabulated report sanitary analysis Mississippi River water, supplied to consumers by New Orleans Water Works Company, bearing the first entry January 10th, 1897——

A. Yes sir, the water was taken from the laboratory pipes.

Q. Tabulated report sanitary condition of river water, as per remarks under individual headings, taking the first date—hold on, I don't think there is any date there.

A. They run along the margin, Judge, starting at "laboratory tap, January 10th, 1898."

Q. Was the water taken from the sources indicated in that tabulation?

A. Yes sir.

Q. That was the last one, isn't it?

A. That is the last one, yes sir.

Q. Now, as to water taken from the laboratory; where was your laboratory situated at the time?

A. In the medical department, Tulane university, on Canal between Villere and Robertson streets.

Q. Do you know with what main your service is connected?

A. I do not sir—I do not; if you will look over some of those tabulations you will see that I have put an additional mark "high nitrogenous results, due to local conditions."

Q. What I wanted to find out was whether the tap was in that building; where is the laboratory situated?

A. On the Robertson Street side.

Q. Ground floor?

A. No sir, second floor—third floor—third floor counting the basement.

Q. Do you know how many taps there are in that building and what the probable amount of draft on that service would be at a time?

825 A. We have a flow pipe;—just what the conditions are I don't know, or how tapped, I don't know, but in the laboratory we have there nearly three hundred taps.

Q. Is that the general laboratory of the institution?

A. That is the general laboratory of the institution; it is not always in use.

Q. Where are the re-agents, used in the analysis stored—in the same room?

A. Where are the re-agents?

Q. Yes.

A. Well, they might be stored in the same room; they might be stored below; we have a room specially put aside for the re-agents.

Q. Are there not a considerable number of packages, or bottles of re-agents in that laboratory?

A. Yes, there is any numbor of re-agent bottles in that laboratory, sir.

Q. Will you tell us what is the general line of business, or analysis in that laboratory, ordinarily?

A. Analytical chemistry, where that water was taken from.

Q. Yes, but what are you generally called upon to analyze, other than water, there?

A. Judge, to facilitate matters. The water was drawn in the upper laboratory; the analysis was conducted in the lower laboratory, my own private laboratory which has not connection with the general laboratory from which this water has been drawn.

Q. Was it by the colographic method?

A. Yes sir, colometric method.

Q. By whose process?

A. By which process?

Q. Noessler's?

A. Yes sir, that is the color was determined with Noessler's re-agent.

Q. Where are the standard solutions prepared?

826 A. In a room that is especially set aside for work of this kind and character; I have a room specially set aside where no ammonia fumes free are allowed to dissipate themselves.

Q. Well the air in the city is rarely free from ammonia, is it?

A. I have never seen cistern water in the city of New Orleans which was free from ammonia; which indicates that the air must, necessarily contain more or less ammonia.

Q. How long, in making these tables, did you use any one standard cell for comparison, before renewing it?

A. Usually not longer than one hour—possibly two hours; it surely cannot be longer than two hours.

Q. Did you, yourself, superintend the taking of the water?

A. I did not.

Q. Then really your knowledge of that is hearsay; what was related to you?

A. In some of these cases the water was taken by myself, but in the majority of instances I had to send my assistant.

Q. I see you state some water was taken from Southport?

A. Yes sir.

Q. Did you take that?

A. I did not.

Q. You don't of your own knowledge, know exactly where it came from?

A. Except the sanitary officers were instructed to collect that water from Southport and return it to the laboratory.

Q. Do you know, in relation to the wharf and elevator at Southport where this water was taken from, or where you wanted it taken from?

A. I don't know, if my memory serves me correctly, I told the officers to collect the water in mid-stream at Southport.

Q. Have you ever been at Southport yourself?

A. I have.

Q. It has been for years a caving bank, there, hasn't it?

827 A. Yes sir.

Q. Eaten in very considerably?

A. Considerably, yes sir.

Q. Do you know anything of the eddies between Southport and the barracks?

A. I do not.

Q. Now the question of free ammonia; as to water taken from the pipes is it not among the possibilities that nitrites and nitrates, one or the other, may have been broken up by the iron rust in the mains so as to free ammonia?

A. If it is a free acid solution there are some chances.

Q. What exactly is the salt of iron—iron rust?

A. It is an oxide. But it would not have been produced by an oxide, Judge, it would have been produced by the metallic iron itself if it was an acid solution. Under those conditions when free hydrogen would be a fluid the nitrites and nitrates are converted into ammonia.

Q. Did you use any method in any of these analyses to ascertain the character and form of the nitrogen; whether it was from vegetable or animal sources, the nitrogenous matter?

A. No, nor can any one else tell that.

Q. The *the* nitrogen you found in combination with its combinations may have had its origin within the pipes, as to that water.

A. Judge, you will be a little more definite about that; I don't care to answer that question as you have placed it; will you repeat it.

Q. Then the nitrogen you found in combination with its combinations may have had its origin within the pipes as to that water?

A. Not likely.

Q. How about albumen?

A. There was albumenoidal nitrogen.

Q. Sir?

A. There was nitrogen in the form of albumenoidal ammonia found in some of the water—in all of the water, to a greater or a less extent.

828 Q. I ask you if the albumenous matter might not have taken that form after it got into the pipe by the decomposition of fish, or decomposition of vegetable matter?

A. That is a possibility.

Q. Do you know how much?

A. If you will just pardon me one moment. That is a possibility for this reason, that during the process of sedimentation large quantities of organic matter are precipitated with the sediment.

Q. Well, you have found shrimp in the water, haven't you?

A. I have found some very large animalculæ in the water; I suppose they were small shrimp.

Q. Suppose those shrimp to have been killed by pressure, or other causes that came into action after the water got into the main—was delivered into the mains—the result would be, at some stage of decomposition albumen, wouldn't it?

A. Yes, it would give results with albumenoidal ammonia.

Q. Now, I see in your tables you make reference to some standard works?

A. I will mention them sir, if you want.

Q. I wanted to ask you what editions you referred to—now Parke's Practical Hygiene, do you remember what edition it was?

A. I think it was the eighth, sir that being the last.

Q. In you- written report there—did you read the proof of the publication of this book said to contain the proceedings——

A. I did, sir, I went over that this morning with my letter press, word for word.

Q. And you think it is correctly printed?

A. My report to the mayor and common council of the city of New Orleans, as printed in that book, coincides in every way with the report—my letter-press report to the council.

Q. Do you remember whether you stated the editions of the works to which you refer therein?

A. I think I do, sir.

Q. Will you be kind enough to look it over and state if the editions of any book there are not given in the report—I think
829 you will find one or two.

A. My quotation of Prof. A. R. Leeds, in his report to the water department of the city of Burlington, 1882, was taken from the work entitled "Mason's Chemical and Sanitary Water Analysis."

Q. Has that gone through more than one edition?

A. I cannot say just now, sir, I think it has, I think there is a second edition.

Q. Will you look at the book I now hand you, being the edition of 1896——

A. Yes, that is the book.

Q. Did you read the book through?

A. I am pretty well acquainted with it, Judge.

Q. Well, he don't think much of the Noessler system of water analysis, does he?

A. I don't think he says anything to the contrary about it; I don't know that Mason, or any other author says anything to the contrary about it, on the contrary his is recognized as the method of recognizing ammonia in very small quantitied in large quantities of water.

Q. You have a good deal of faith in him, as an author?

A. Mason; I don't know the man personally; but I should judge he knows something about the subject in reading his book.

Q. He has been somewhat interested, hasn't he, in water engineering?

A. He has. Now, speaking of the other editions; there is Dr. Franklin, just one edition that I failed to put down, but we can very easily find that out; it says here the water analysis on page 86 of Mr. Wenkler's Report is taken from his analysis See page 68.

Q. My recollection is that there have been several editions of that?

A. Of Wenkler—yes.

Q. I would like if you can to fix the editions?

A. I couldn't just off-hand.

Q. Perhaps you can give us the data to enable us to fix it;
830 is it a book in your own library, or some public library.

A. It is in my library, it is in most libraries.

Q. I know, but the book you consulted on that particular occasion?

A. In my own private library.

Q. You have the copy now that you had then?

A. Yes sir.

Q. So that that book must have been the one you referred to?

A. Yes sir.

Q. Now, are you prepared to give credence and professional belief *the* the statement of Mason on potability and the measure of safety for free ammonia and albumenoidal ammonia?

A. It will depend altogether upon what part of Mason you refer to; because Mr. Mason's book while a considerable amount of his own writings is contained therein; there is also a considerable number of quotations from other authors.

Q. They are quoted with his comments thereon, generally, are they not?

A. I don't know that they are, all together, if you will refer to a specific paper or particular statement, I might be able to answer your question.

Q. Now, are you familiar with the reported analyses to the health authorities, of the waters of New York and Boston, Buffalo, Cleveland, Erie and Chicago?

A. I have seen some of those analyses, but I don't carry them in mind just at this time.

Q. Do you know whether the Croton water of New York is considered a healthful, safe water?

A. At times it is and at times it is not.

Q. Do you know what proportion of albumenoidal ammonia is found in it in summer as an average.

A. I don't recall the exact amount.

Q. There are tables and figures are there not?

A. Tabulated analyses, yes sir.

Q. Now, in this tabulated analysis, what quantity of water
831 did you take, as the basis of the analysis; what measure, English or French?

A. You mean upon what quantity of water were the results based?

Q. Yes sir.

Q. Yes.

A. Upon parts per hundred-thousandth.

Q. Upon millions per hundred-thousand?

A. Upon parts per hundred-thousandth.

Q. Is that metric or ——

A. Simply parts per hundred-thousandth; it might be grains, it might be pounds, it might be ounces; it might be anything you pleased to call it.

Q. Well the amount of water would be hard to find?

A. Why certainly, for that reason we start off with a liter of water.

Q. Now in this tabulated statement of parts, are they given by volume or weight?

A. Parts by weight, sir.

Q. What is the specific gravity, if you remember that, of anhydrous ammonia?

A. I don't know that I can call it right off here, it is decimal aught something—decimal aught something.

Q. You don't undertake to remember that.

A. No, I am not a walking encyclopedia.

Q. Will you be kind enough to ascertain the specific gravity of anhydrous ammonia and send a note to the stenographer?

A. Certainly sir, if it can be found.

Q. Ammonia free, absolutely free ammonia, is it a fluid or a gas?

A. It is a fluid.

Q. What pressure.

A. I don't know what pressure, but it — tremend*u*ous.

Q. I mean now say the thermometer at 60 and the pressure one atmosphere, it would be in a gaseous form, wouldn't it.

A. It would be in a gaseous form; or would assume a gaseous condition very rapidly.

832 Q. It has an extreme avidity for water, hasn't it?

A. Yes, water absorbs very large quantities.

Q. Have you the same esteem for the other authors that you have referred to in your written report, that you — for *for* Mason?

A. I have a very high regard for many authors, Judge.

Q. I ask you relatively,—you consider them all reliable?

A. To a certain extent.

Q. Well common knowledge and certain knowledge are very different things.

A. For instan-e, I have a very high regard for Franklin, and for a great many of his estimates; but I don't think much of Franklin's method for estimating organiz hydrogen; now Mr. Wenkler, I have a very high regard for his method; which is the method I have adopted; it i*a* a method I use without any qualification or modification.

Q. But the two men in a literary way quarrel very much over their systems; dispute the correctness of them.

A. Some years back; but it is pretty well established now; Wenkler's method is used pretty much all over the world; I don't know of any one using Franklin's system.

Q. Is one good and the other bad, or one handy and the other unhandy?

A. Well, Franklin's system, in my mind, has given very*b* high results.

Q. Did you ever measure them by the absolute quan-tative analysis of water by ordinary means?

A. Yes by Franklin I have, and by Wenkler I expect I have got enormous results from some waters.

Q. Don't all of them agree that the establishment of the potability of water is to be arrived at, not only by considering the an-lysis of the organic and inorganic matter contained, but the surroundings and sources of the water?

A. They do, sir; as a unit; that is a unit with all sanitarians, to-day.

833 Q. One may guess one way and another fellow another?

A. It is not a question of guess, Judge; we have had some words about that before; it is not a question of guess; it is a question of absolute certainty.

Q. I am not speaking about you chemical deductions, but I am speaking about the conditions of water-sheds and sources of supply.

Q. If you are speaking of wells, such as our dairy wells, why you will understand that that water, which is supersaturated with decal matter is going to give results. That water will be condemned on the face of it. If you go and sink a well in the city of New Orleans in a soil that is supersaturated with fecal matter; you are getting water which will give very high results; if you are going to take river water the question of population along the bank is going to enter into the consideration; if you are going to take the lake water the question of population there you are going to take into consideration; it depends on largely how your water-shed is protected.

Q. Yes, I know, but that is a matter upon which the judgment of men equally intelligent may differ, is it not?

A. I don't know that they have differed, Judge.

Q. Well, I am sorry to say then, "but they might differ."

A. Yes, they might.

Q. You could not apply any chemical test to tell whether your judgment in that respect was correct or not, or whose is correct?

A. Certainly not.

Q. What do you know of the water-shed of the Mississippi river, say from the mouth of the Yazoo down, what water-shed has it?

A. I have not made a special study of the water-shed of the Missi-ppi river that comes under the head of engineering and not——

Q. But there is some engineering in determining the potability of water, isn't there; will you tell me what streams enter the Missi-ppi river below the Yazoo.

—. I must confess I have forgotten my geography.

834 Q. Isn't it true that the water-shed of the Mississippi river is nil, below the mouth of the Red river, and the overcharge or drainage is back into the swamp; isn't it true that the river is higher than the swamp?

A. Judge, I don't really know; I couldn't answer that question; I have not been in that section of the country.

Q. One should know it in passing upon water supply. Have you any kind of an idea of the average current of the Mississippi river—we will say with its average suction—how much water in cubic feet or United States gallons passes any one point in the river in a minute?

A. In a given time, sir; I am not an engineer, I don't know.

Q. Does not the bed of that river and its flow and the volume of water in it, necessarily enter into the question of sources of contamination and other manifestations.

A. Good, sir; the point is well taken so far as you are concerned, but for that purpose I didn't take the standard of any one particular author; for that reason I did not take the standard of any individual, but the standard upon which I based my analysis Judge, has been the water analysis as it came down the current in mid-stream—this water taken from mid-stream, that has been the basis of my standard for judging Mississippi River water. If you will just give me a chance, I will help you out.

Q. I don't want any help, I am trying to get at a fact.

A. I will tell you this, that water even in the current of the Mississippi, taken from mid-stream will differ from year to year, at the same seasons of the year.

Q. Of course, differ in temperature somewhat, I suppose.

A. Not so much temperature, Judge, as it is the sediment that it holds and the process of sedimentation.

Q. Isn't the volume of water passing the source of supply a very important factor in determining the question of pollution; suppose that I were to dump into the middle of the river ten barrels of ammonia in solution enough to made it fluid; how long do you think it would take it to become diffused?

835 A. So far as you- experiment is concerned, it would not take a very long time; but the question of ammonia in water and the question of taking ammonia and dumping it into the middle of the Mississippi river, are two different questions. The

ammonia or nitrogen as it exists in river water; the free ammonia that is there, comes from decomposition of albumenoidal ammonia; albumenoidal ammonia is the first thing that finds its way into the river, either as offal or waste; and as that is oxidized it is converted into ammonia and after that ammonia is oxidized it is converted into nitrites and nitrates and there may be a decomposition, for instant-; if the water is very rich in nitrates and there is an amount of carbonaceous material as it sometimes happens when the river is high, these nitrates are decomposed and show themselves as nitrites, so that the finding of nitrites in Mississippi River water is one thing at one season of the year and another thing at another season of the year.

Q. What I am trying to get at, is about how much ammonia it would take to dump into the Mississippi river, and give it a taste of ammonia anywhere?

A. Judge, I don't know, I never measured.

Q. It would take an enormous amount wouldn't it?

A. Oh, yes, for that reason when we use Noessler's method for conducting analysis, the quantity of water being very small——

Q. Let use come to that test; a color-blind man couldn't make, it could he?

A. No, he couldn't do it.

Q. Are you certain you are not color-blind?

A. Of that I am positive.

Q. Have you been tested for it?

A. Yes, again and again.

Q. That system undertakes to measure in weight the amount of ammonia in water by shades?

A. By shades, yes sir.

836 Q. And that was, if I remember right, a light brown.

A. No sir; it was a light yellow; it depends upon the quantity; it might run from a very light straw color to a very dark color; to a very dark red in fact; sometimes the reaction is very, very sensitive and the quantities of ammonia so large that it is necessary to make the solution over and cut down the solution one-half.

Q. If the ammonia was very largely in solution you would have to get a precipitate, wouldn't you?

A. Oh yes. With Noessler's test it is precipit-ble right rapidly; the coloration is due to the precipitate if it stands long enough.

Q. You determine how many thousands in weight by your ability to declare that two tints are exactly alike?

A. Yes sir.

Q. Now, perhaps I am color-blind, but Noessler's solution looks to me a light brown?

A. Yes, you are color-blind.

Q. And you think——

A. Now Judge, one moment; if you want to demonstrate that I can demonstrate it before the court.

Q. Demonstrate what; that I am color-blind?

A. Either that or the estimation of the amount of ammonia in water.

Q. Now, don't you think there ought to be a better way than measuring tints to tell weights and proportions?

A. Judge, I don't know how it is in questions of law; but I know, in so far as our work is concerned it is absolutely positive; because the work is gone over again and again and by every way that lies within our power we try to confirm the results.

Q. And you would reach the one hundred and thirty-six thousandth part of a grain?

A. Yes sir, without any trouble whatsoever.

Q. You can hardly weigh that on any sacle that you know of, could you?

837 A. No sir; it couldn't be weighed and for the reason that it cannot be weighed we have adopted the colometric method of analysis in estimating quantity.

Q. Do you think that the man ought to be considered insane that would be sceptical about the accuracy of that?

A. Well, I don't know what you might consider that man.

Q. The fair human judgment would put it as an error of judgment, perhaps.

A. Hardly, it depends upon training.

Q. Like congenital moral weakness.

A. It depends entirely upon training.

Q. Let us go back here to the statement that we had the other day from Dr. Pratt; who seemed to be under the impression that you had some time, somewhere told him that you had found fecal matter in the mains of the water works Co.

A. There were several reports presented to the board of health upon the sanitary condition of the water supply by the New Orleans Water Works Co. At that time we were also considering the water supply of the American sugar refinery. I was sent down to the American sugar refinery to look into the sanitary conditions of the water; I collected the water there and the results were considered as to condemn the water on account of its high pollution; now that water was taken from the Mississippi river by me; it was taken from the vats in the American sugar refinery by me and it was analized by me; and Dr. Pratt may have had that conversation, or that report in mind at that time.

Q. That was it, I suppose.

A. Yes sir.

Q. Will you tell us if it is not true first that that refinery does not take water from the public water works, and second that it pumps its water from the river.

A. The refinery takes its water from the river a few feet from the discharge pipe, or sewer pipe of the Charity hospital, sir, and I don't know whether that has been corrected or not, but I

838 know that the water that I collected at the foot of Canal street, or thereabouts, I cannot point out just the exact locality; had in it even the fibres of the cotton bandages.

Q. My recollection is that only about eight or ten feet——

A. I don't remember, but I think I reported it at that time and I would not state positively—but I think it was in the neighborhood of eight or ten feet; I don't think it was any more. It was the cause of a great deal of diarrhœa trouble and the Charity Hospital wards were full of diarrhœa and the outdoor department of the Charity hospital, also, which they attributed to the drinking of this particular water.

Q. The Southern brewery takes water near that same vicinity?

A. I don't know.

Q. Have you ever had any occasion to investigate the Southern Brewery water?

A. The only water that I have analyzed for the Southern brewery was artesian-well water.

Q. Is it not true that in the neighborhood, at least of inhabited cities, the atmosphere is rarely free from ammonia?

A. I know that to be a fact sir; not only is it not free from ammonia, but we found it in all the rain water of the city of New Orleans, merely a solution of the materials that are wholly in the atmosphere, and nitrates too, as well.

Q. Water is rather hungry for ammonia, is it not; takes it up.

A. It is very soluble in water, yes sir.

Q. The method of fighting a leak in an ammonia pipe is with water, the same as you would for a fire; sparying it.

A. For the purpose of absrobing it.

Counsel for plaintiff, offers, introduces and asks to be filed in evidence 24 receipts of F. Johnson & Co., produced by Mr. Tharpe.

Also sixteen receipts of the Swiss Steam Laundry Co.

839 —— EXNICIOUS, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Did you visit today the residence of Mr. Edward Toby?

A. I did sir, he was sick in bed.

Q. Sick in bed?

A. Yes sir.

Q. Had a surgical operation on his neck yesterday?

A. Dr. Bemis was there.

Q. Had you previously served a subpœna on him?

A. Yes sir.

Counsel for plaintiff offers, introduces and asks to be filed testimony of Mr. Toby, taken in the case of Isaac Levy *vs.* New Orleans Watee Works Co., 19th May, 1885, marked Exnicious A.

Objected to as hearsay and irrel-vant.

By the COURT: I think where a witness is within reach of the process of the court testimony which has been elicited upon another trial cannot be used over the objection of one of the parties. As the witness in this case seems to be within reach of the process of the court, I don't think the testimony is admissible.

R. DEVERGES, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. Have you been examining the inspection certificates of the water works company?
A. I have been making copies of them, yes sir.
Q. Have you brought any more here today?
A. No sir, I have got them all, I have turned them over to you.
Q. Have you looked at these 479 copies, or certificates?
A. There are more than that, you will find by your list that there are 519 or 520; they are all numbered.
Q. Please state whether, or not they are copies of the inspection certificates?
840 A. Yes sir, that is some are copies; some that they could not produce of course I took from the books and they are crossed; I made crosses on them.
Q. How are those marked on which they had no——
A. They are in this way, marked with these asterisks.
Q. I notice they are marked O. K. Heck; who is Mr. Heck.
A. Mr. Heck is a clerk employed by the water-works office and certified to the correctness of the copies.
Q. He O K'd them, marked them O. K., in every case.
A. Yes sir.

Plaintiff's counsel offers, introduces and asks to be filed in evidence copies of inspection certificates made by the witness.

Cross-examination by Mr. BECKWITH:

Q. You were given every facility were you not, there, to examine them?
A. Yes sir.
Q. Found them a pretty decent lot of people in there, didn't you?
A. Oh yes, very gentlemanly, every one.

JACOB SCHOEN, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. What is your occupation?
A. Undertaker, sir.
Q. Have you been using the water of the water works company?
A. Yes sir.
Q. How many horses and vehicles have you?
A. I believe I have about forty horses.
Q. What rates have you been paying?
A. Well, last year I had a meter, before—and it was so much different every month that I did away with it and took it by the year.
Q. How much did you pay by the year, last year?
A. This year is $160; here is the receipts.

Q. How much were you paying by the meter.

841 A. Some months ten some months eleven, $13, $18, up to $27, then I quit.

Q. How much per thousand gallons.

A. Well I didn't study that up Judge, I don't know.

Q. Were those all the receipts that you could find?

A. Yes sir, since I bought my partner Frantz out.

Q. Sir?

A. Yes, since I bought Mr. Franz out, it is Schoen & Son now.

Q. It was Franz & Schoen?

A. Yes sir, the receipts from the old firm I didn't get; I don't know what became of the receipts; they must be down at Franz' house.

Counsel for plaintiff, offers in evidence the eight receipts produced by the witness.

Cross-examination by Mr. BECKWITH:

Q. Will you state where your establishment is?

A. Elysian Fields, 527.

Q. Between what cross-streets?

A. Decatur and Chartres.

Q. In your case, was there not an agreement entered into between you and the water works for a flat rate on the average of the last year's meter?

A. No sir, not rates whatever; we made no rates; they came and took the meter every month and charged up so much.

Q. I mean when you changed from the meter to——

A. Oh yes, about a year ago.

Q. It was a rate taken upon the basis of the year's average; the last year's average?

A. Yes sir, the last year.

Q. Does your family live in your place?

A. The family live there but don't use the water; my sons live there.

Q. They don't use the water at all?

A. No sir; they don't use the Mississippi River water at all. They have a cistern.

842 Q. What do they do when the cistern is empty.

A. Sir.

Q. What do they do when the cistern is empty?

A. Well, we have got three of them.

Q. When the three are empty.

A. Oh do something, I suppose; I don't know what they do.

Q. I ask you because we pumped 19 million gallons a day in this drouth against eight million gallons' demand. Well the family didn't use any of it.

A. No answer.

T. J. GASQUET, sworn for plaintiff, deposes and says:

Direct examination by Mr. FORMAN:

Q. You own a number of properties in New Orleans, I believe?
A. Yes sir.
Q. Do you ever use the water of the water works Co.?
A. I have not in the last ten years.
Q. Did you previous to that?
A. Did use it previous to that.
A. Why did you quit?
A. On account of the rates and the bad water.
Q. Can you tell us what you were paying before you quit for your accom-odations.
A. No accom-odations whatever—very little.
Q. Did you bring any receipts with you?
A. No sir, I couldn't find any handy.
Q. How many hourse- and buildings do you own or represent?
A. Well, I have unfortunately got a good many of those—forty——
Q. Forty?
A. About forty.
Q. You couldn't find any of your receipts?
A. They don't take the water, none of them, I furnish them cisterns built the larges- kind of cisterns for them; some of them have five cisterns and artesian well nearly 1000 feet deep.
Q. What was the charge of the water works company, compared with the rates you paid the city before they took it.
843 A. It seems to me it was about double.

Cross-examination by Judge BECKWITH:

Q. Did you ever, at any time take water from the water works either the city, or the present company, for your own dwelling-house?
A. I did.
Q. What years?
A. I would have to look at my receipts to tell you exactly—the year I don't like to say, because I don't remember exactly for it was many years ago.
Q. You have stated that it seemed to you that the rates were double for the Mississippi water, on the same basis?
A. Yes sir.
Q. You cannot tell what year you did pay either to the city or to the water works company, at your own residence?
A. I quit taking the water on account of the rise.
A. I understand—that you had a right to do—but what I ask you now is, during what year, since 1878, did you take water from the New Orleans Water Works Co. at your house?
A. I took the water in 1876 and 1877, I am quite sure, on St. Charles street.

Q. What was the number of that house on St. Charles street?
A. 143.
Q. Do you know what service you had?
A. Hydrant water.
Q. I say what service?
A. One faucet.
Q. Do you know what you paid——
A. No service.
Q. What did you pay?
A. I have forgotten.
Q. That was not very good data to double on, was it? What houses did you——
A. I told you 143 St. Charles.
Q. I know, but what houses did you furnish water for from the water works Co.?
844 A. 64 Bourbon.
Q. Who occupied it?
A. No, it was 66 Bourbon.
Q. What year was it?
A. At the same time occupied by Bacas.
Q. That was in the monopoly times, when the city had the monopoly.
A. Those were the times that I took it.
Q. What I am asking you now, and please confine yourself to it is since 1878.
A. I cannot tell you exactly, I have no receipts.
Q. Have you any recollection?
A. When I give you my recollection you don't take it.
Q. Well, it don't seem to be worth much; what I ask you now is——
A. You want something different; you want your recollection; I cannot give your recollection.
Q. How many houses, aside from your own residence, and the one you have last described, did you take water, either from the city or the New Orleans Water Works Co. for.
A. I don't remember.
Q. Do you know whether it was one, or ten, or five or six or fifty——
A. Don't know.
Q. Do you know what you paid?
A. Don't know.
Q. Either to the city or water works—not any of them.
A. City or water works.
Q. Yes.
A. Don't know, don't remember.
Q. Then your guess that you paid double isn't much of a basis is it.
A. I guess it is a pretty good guess.
Q. The data——
A. Don't suit you?

Q. Oh yes; it suits me as well as anything you could have
845 said: but what I want to get at is upon what small data you can make a guess; it don't take much.
A. I didn't take much of the water—no.

Counsel for plaintiff, offers in evidence receipts from the Troy Laundry Company, and with the exception of the testimony of Mr. Toby, which will be taken by consent between now and the next trial,

The State rests.

846 Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
N. O. WATER WORKS COMPANY. } No. —.

Testimony for plaintiff in the above numbered and entitled cause, taken in open court on the 18th day of December, 1899, before the Honorable George H. Theard, judge.

Present: Counsel for all parties.

The following documents having been offered in evidence on the last day this case was fixed for trial, and submitted to counsel for the N. O. Water Works Company for verification, are returned by them as correct, and plaintiff's counsel now offer again in evidence the list of open and closed hydrants; statement of R. L. McMurdo, secretary of the N. O. Water Works Company, of the amount expended since 1877 on permanent improvements and extensions; copy of contract identified by O. M. Dunn between the I. C. Railroad Co. and the Yazoo & Mississippi Valley R. R. Co. on the one side and the N. O. Water Works Company on the other.

Mr. EDWARD TOBY, sworn on behalf of plaintiff, deposes and says:

Direct examination.

By Mr. FORMAN:

Q. I believe you were the first president of the New Orleans Water Works Company?
A. Yes sir; about 1880.
Q. Sir?
A. Somewhere about 1880—1879 or 1880.
847 Q. Were you not the first president?
A. After taking it from the city, yes sir; about that.
Q. After the city surrendered the water works to the New Orleans Water Works Company, you were the first president?
A. I was.
Q. Did you receive from the administration—the administrators of the water works Co. the books and recor-s of the old water works?
A. I did.

Q. Did you have, while you were president of the New Orleans Water Works Company the hydrant ledgers and other books showing the rates the city had charged and received?

A. I did.

Q. When you left the office did you turn them over to your successors?

A. I suppose so.

Q. Sir?

A. I didn't take anything away.

Q. While you were in the office did you assess rates in conformity to what the city had previously charged?

A. I did.

Q. Can you state what the charge was per thousand gallons,—per meter measure?

A. Well, my memory was refreshed by the reading of the testimony two weeks ago, that a gentleman came up to my house and read. And there it stated in that testimony given, I believe in 1885, that the meter rate was fifteen cents per thousand gallons.

Q. You refer, then, to the testimony of May, 1885, taken in the case of Isaac Levy *vs.* The New Orleans Water Works Company—your testimony taken in that case?

A. I think that was the case; he read it to me two weeks ago.

Cross-examination.

By Mr. BECKWITH:

Q. How long were you president?

A. About two years.

848 Q. Who succeeded you?

A. I think it was Albert Baldwin.

Q. While you were president, did you make any annual reports?

A. Every year.

Q. Will you take that book marked "No. 11,"—being report of the water works company—look at that book and see if it contains your official report while president?

A. I see my name signed here to a report dated April 10th 1879; also one dated April 10th, 1880. I see my name filed to a financial report here dated April 9th 1881, following a general report, or secretary's report, also.

Q. Were not those reports, to which your name is attached, the annual reports required by the charter of the water works company to be made under oath?

A. I think they were, sir.

Q. So far as those official reports containing statements over your name, have you any idea that they were incorrect in any respect, and did not represent the true condition of things?

A. I think they were correct—I should suppose so.

Q. You would not intentionally make a misstatement, of course?

A. I can't tell what is printed on the book.

Q. Will you look at it?

A. I can't tell whether I wrote it; I would have to have the manuscript copy to know whether it was written by me.

Q. What do you say?

A. I would have to have the manuscript copy to know whether it was written by me. I can't tell whether I wrote it; I would have to have the manuscript copy, signed by me, to know whether it was written by me. To the best of my knowledge and belief,

849 those reports were correct.

Q. The manuscript copy went to the printer?

A. I suppose so.

Q. Did you read the proof?

A. Generally I suppose I did.

Q. Have you any idea there is any misstatement?

A. I don't think there is, sir; I have no idea there is any misstatement at all. I take it for granted that they are all correct.

Q. You presided at the meetings of the board of directors, generally, did you not?

A. I did.

Q. Who was secretary of the board of directors—of the company—at that time?

A. Mr. Alexander Boneval was the first secretary.

Q. Was it the usual course of your meetings to consider the secretary's report of your preceding meeting, and either correct or approve the minutes?

A. I suppose that is the general course in all corporations.

Q. Now, will you tell us, Mr. Toby, whether during the entire time you were president, you had a single meter in use?

A. Well, I can't recollect that. There must have been some meter in use.

Q. Who was it that had it?

A. I can't recollect that.

Q. Will you state that there was a single, solitary meter in use by any water consumer, during the entire time of your incumbency as president?

A. Well, it is very hard to tax my memory that far back, Mr. Beckwith, because my recollection is not very distinct; but

850 I am sure I saw a meter in the St. James hotel.

Q. In the St. James hotel?

A. And I think one in the St. Charles hotel; I can't recollect others, but there were meters, I know; I saw the meters. I may be mistaken about that.

Q. When you say you saw the meters on these places, do you mean to be understood that you saw them there for the delivery and recor-ing of the amount of the delivery of water?

A. Well, I think so.

Q. Had you any confidence in the meters—in their correctness—at that time, as the art of meter construction existed?

A. Well, I don't think I had much faith in meters.

Q. Are you willing to state that either the St. James or the St. Charles hotel had a meter during any part of your term?

A. I can't say positively, sir; because I can't recollect that fact. I am not going to make an assertion that I can't stand to.

Q. As president of the company, what supervision, if any, did you have over the books and records of the company, recording the amount of water sold and the proceeds of it?

A. I had a general supervision.

Q. Have you any idea or belief that the books kept by you and under your supervision—during the time you were president of that company, were false?

A. Well, I had no idea of it.

Q. You believed them to be true?

A. Well, I think so, I had every confidence in Mr. Boneval, the secretary who kept the books.

Q. In your testimony in 1885 you selected the St. Charles hotel as being the one that paid fifteen cents per thousand gallons;
851 what recollection have you of that now?

A. I have none.

Q. Have you any recollection of having had any trouble in collecting the St. Charles Hotel water bill?

A. I can't recollect.

Q. Have you any kind of an idea or recollection?

A. Not the slightest.

Q. What the St. Charles Hotel water bill was?

A. Not the slightest.

Q. Have you the slightest recollection of the amount of water that they were taking?

A. I have not.

Q. Have you the slightest recollection of any understanding or agreement with the proprietor of the St. Charles hotel or the St. Charles Hotel Company, about the water supplied to the St. Charles hotel?

A. It is entirely out of my mind, sir.

Q. Now it appears from water records made during your time that there was a meeting of the board of directors on April 23rd, 1879, at which meeting you made a report of which the following is a record from the president's annual report dated April 10th 1878 and April 9th 1879, inscribed on the minutes; "The collection of rates by the system of estimation is compulsory. As there is no metre yet invented that will register, with the present sedimentary character of the Mississippi River water, I have endeavored to make the assessments as equitable as possible, and have encountered the greatest difficulty with those who preferred having a free supply. Many evils have arisen under this system, owing to changes in the administration; and the tariff of rates now established is both just and equitable, and should be maintained, and not departed from
852 except under the most urgent circumstances." Now, what does that mean?

Objected to on the ground that the question read is perfectly intelligible, and not obscure.

Q. It appears by your record as published, and by the entry on the minutes of the board of directors while you were president, that there were no meters at that time that were reliable: were you using unreliable meters at the St. Charles and the St. James?

A. You asked me just now if I had seen any meters, and I told you I had; and you asked me if I thought they were reliable, and I told you that I didn't have much faith in the meters as I found them.

Q. Do you now, when your memory is refreshed by your report and by the entry on the minutes of the board of directors, state that you had in use—or can you state from any recollection that you had in use a single, solitary meter during your encumbency?

A. I can't recollect any meters except those that I mentioned. I am not positive about the St. Charles hotel, but positive of the one in the St. James hotel.

Q. Where was it located—wher-abouts in the hotel?

A. In the hotel itself.

Q. I know, but that was a building on Magazine street: was it not quite a large building?

A. Magazine street, yes sir, running between Gravier and Natchez alley.

Q. Where was that meter located?

A. I couldn't tell you that.

853 Q. You must have gone over to see it, or had some curiosity about the supply of that hotel?

A. I couldn't locate exactly the position of that meter.

Q. Do you know when that meter was installed?

A. I do not.

Q. Do you know how long it was installed?

A. I do not.

Q. Do you know what the bill for that hotel was?

A. I do not.

Q. Have you any idea what they consumed under the meter?

A. I have not.

Q. Do you know of any books that were kept—ledger; journal, or other form of book, during your incumbency as president of the water works company in which the reports of meters and meter bills were recorded?

A. I don't recall any books, except the books made mention of there in my testimony—some books.

Q. Well, — the meter measure of water ever appeared in your general ledger?

A. What do you call the "general ledger"?

Q. What?

A. What do you call the general ledger? There were hydrant ledgers.

Q. What?

A. There were what they called "tariff books;" there was a record of every consumer.

Q. Do I understand you to say that during your administration

the affairs of that corporation were not recorded in any permanent set of books? and in a general ledger—all the receipts and expenses?

A. Oh, yes: I understand the question now. The general
854 result, of course. The books of the corporation should show all the receipts as well as the disbursements from every source.

Q. Did you direct, or undertake to keep an account of the bills showing the amount of water metered, and the amount paid per thousand gallons in any kind of a book?

A. I couldn't say.

Q. Well, how on earth could a meter bill be made without it?

A. I can't tell, sir; you are asking me a question that goes way back.

Q. Do you remember anything whatever of a dispute between your officers—your board of your company—and the St. Charles hotel about water,—about the payment for water?

A. I think there was a dispute, but that I have entirely forgotten.

Q. Now, you say in your report, and had carried on in the meetings of the board of directors of the water works company, that the tariff established was both just and equitable; now, did your board of directors, by their own action, establish or publish any rate of tariff for water consumed?

Objected to, on the ground that whatever the board of directors does must appear in writing on the minutes of the board itself, and the books are the best evidence of what does or does not appear.

By the COURT: That is a matter of record; the record should be produced.

Counsel for defendant states that he desires to know if there was any other record than the one he speaks of.

Counsel for plaintiff renew their objection, and ask to see the book; and object to the question until the book is produced.

855 Q. The question is read, and counsel for defendant states that he will amplify that question by striking out so much of it as relates to their having it entered on the minutes, so that it shall read "In your report you say." Did your board of directors, by their own action, establish and publish any rate of tariff for water consumed?

Objected to on the ground that it is a matter of record.

By the COURT: That is covered by my ruling. The record should be produced.

By Mr. BECKWITH:

Q. I modify the question, and ask you do you recollect any such?

The objection is renewed.

Counsel for defendant states that he wishes to test the witness' memory.

Counsel for plaintiff state that they concede that the witness does not recollect anything.

Q. Do you recollect, during your encumbency as president of the New Orleans Water Works Company, of the adoption or promulgation, or publication of any list of water rates and charges to be paid by water consumers?

Objected to by counsel for plaintiff, on the ground that it must have been adopted by the board and published; and, if published, must be contained in some written minute or paper.

Counsel for defendant states that he wishes to test the memory of the witness.

856 By the COURT: I think the question is proper.

Counsel for plaintiff states that if it is for the simple purpose of testing the memory of the witness, they make no objection.

By the COURT: I base my statement upon the statement of the counsel for defendant that that is the purpose.

Q. Repeat the last question.

A. I do not.

Q. Do you recollect of any resolution of the board having been passed looking to litigation to recover the St. Charles Hotel bill for water?

Counsel for plaintiff asks counsel for defendant if the object of the question is to test the memory of the witness; that if it is for that purpose alone, there is no objection to the question; but that if it is intended to show that there was such a resolution passed, counsel for plaintiff object, on the ground that the resolution itself is the best evidence.

Q. I simply ask your recollection.

A. Shall I answer?

By the COURT: Yes.

A. I have no recollection of it.

Q. Have you read your deposition in the case of Levy *vs.* New Orleans Water Works Company, to which your attention has been called?

A. No sir; but the gentleman came to my house two weeks
857 ago, and read it to me. I wasn't in a condition to read it myself, and he read it. He wanted to refresh my memory; I let him read it, I never read it myself.

Q. Do you remember now, after having had your memory refreshed, what consumer you named as having furnished water at fifteen cents per thousand gallons?

A. Already I stated it in that report; I don't remember it. If it is there, I will stand by anything that is in it.

Q. I now ask you if you recollect, from having it re-read to you, what consumer of the water works paid fifteen cents per thousand gallons?

A. I have no recollection of that—that is, the name of the party.

Q. Is that the paper read to you (hands witness document)?

A. I suppose it is.

Q. Well, look it over, and say if it refreshes your recollection as to what you stated.

A. Yes; I see names mentioned here—St. Charles hotel, Pelton & Dunbar, and St. James hotel.

Q. Is your memory now refreshed so that you can state from your memory, as refreshed, that they were the ones?

A. As I stated there I will state again today—that there were meters in those places; that's my recollection as written there. I can't recollect now that they did have it, except I saw it on the paper there.

Q. The Dunbar's refinery, what was that—where was that located?

A. I think it was Pelton & Dunbar. I think they were on Tchoupitoulas and Magazine streets; I have forgotten where
858 exactly. They were uptown—upper side of Canal street.

Q. Will you say, from your recollection, what the flat rate for water was?

A. In all those places mentioned they had their own meters.

Q. Now you say that the books of the water works company, while run by the city—hydrant books, were turned over to you when the company organized?

A. They were.

Q. Did you ever consult them for reference?

A. I was governed by them almost exclusively.

Q. You didn't change the rate of Dunbar?

A. That, I can't say.

Q. Changed the rate of the St. Charles hotel?

A. I can't say that.

Q. Whatever you found, then, in those hydrant books you took to be the city rate that you were obliged to follow?

A. As nearly as possible.

Q. Do you know how many of them you have examined, and for what districts?

A. What?

Q. Those hydrant books—city hydrant books?

A. Well, I was constantly looking over them.

Q. Now, Mr. Toby, one of the deadly sins in all the liberal lot charged against us is the act alleged to have occurred during your administration—that was the issue and sale of two hundred and fifty shares of the water works company at less than one hundred dollars a share. Do you remember anything of that?

A. I have no recollection of it at all, excepting I went into the water works company's office and was shown the matter, and I have no recollection at all. I saw the entry—debit and credit—
859 where the stock had been received and sold for the same price; and it was entirely out of my mind how we ever came in possession of that stock.

Q. Is it now?

A. Entirely. I don't know.

Q. You have no recollection about there being any dispute between you and the company and the city about the collections the city had made from water consumption for the unexpired term where the water would have to be furnished by your company?

A. No sir; it is entirely out of my mind. I have no idea how we acquired that stock,—even after I was shown the entry on the books. If I had, I certainly would have said it at the time.

Q. Have you any recollection of your having—or the board of directors having ordered the issuance of stock in excess of the two millions—for sale?

A. I have no recollection of anything of that kind.

Q. Well, we might rely, you think, with accuracy upon the books you kept during the time you were an incumbent?

A. Well, yes, I should judge so. Mr. Boneval was the secretary, and he was a man that I had a great deal of confidence in. Of course, I didn't keep the books and didn't make the entries; but he was a man of strict integrity, as I suppose, and I didn't think there was anything in the way of false entries ever made.

Q. Is Mr. Boneval still living?

A. No sir; he has been dead several years.

By Mr. FORMAN:

Q. Your recollection was fresher in 1885, when you were only out a few years, than it is now; was it not?

A. Yes:—I am a little older than I was then, too.

Q. So are we all; but your recollection was a little better
860 then than now, of what occurred then?

A. I think so.

Q. Your testimony given in the Levy case in 1885 is more apt to be accurate?

A. I am perfectly willing to stand on the record at any time, of anything I have said.

By Mr. BECKWITH:

Q. Were you not bitterly disappointed, and oppressed with a sense of anger, at having been supplanted in the water works company?

A. I was, sir; I felt sore, as any man would, I suppose, under the circumstances; I never showed it to anybody, though; nor have I ever shown any vindictiveness of feeling on the subject, except to myself.

Counsel for plaintiff offer, introduce, and ask to be filed in evidence, the testimony of Mr. Toby taken on the 19th of May, 1885, before Judge Monroe, in the case of Isaac Levy *vs.* The New Orleans Water Works Company.

Counsel for defendant object, on the ground that the witness has not identified it all.

By the COURT: I think he has sufficiently identified the correctness of that testimony. He stated two or three times, within my recollection, that the evidence had been read to him, and he was willing to corroborate it.

Witness being recalled says: I will state that there is a good deal of that that is Greek to me now; but I say that if I gave that testimony I will stand by it.

Counsel for plaintiff reads the testimony to the witness, and
861 asks: Now, Mr. Toby, I have read you over all the testimony given, is it correct?

A. Well, now, when Mr. Beckwith asked me that record of that St. Charles hotel I had forgotten about it. The reading of that over recalled to my mind that I did have some trouble with the St. Charles hotel. It had escaped my mind, and a great many of those things there about the factory, and so many gallons of water and so many pounds of coal, etc. I had forgotten that.

Q. What I ask you now is: is that testimony of yours given on that date correct?

A. If that is my testimony, it is.

By Mr. BECKWITH:

Q. When you undertook to estimate the water consumption of a large hotel like the St. Charles hotel, did you rely upon the meter used in steam as being the total amount of water used in the hotel?

A. Why, no: I suppose they used it for lavatory purposes, laundry purposes, and general hotel use.

Q. Does not the demand for water for the use of guests in a hotel, in one way or another in water-closets, cooking and everything, in a hotel, depend somewhat upon the number of people, and the amount of steam power used?

A. I should say so.

Q. How on earth, then, could you estimate the St. Charles Hotel supply from the engineer—how much he used to steam with?

A. It was for steam purposes, I guess, I charged that; but then we gauged it by the number of guests during the summer and winter that came and went every day. I judge from that testimony there, that is the way I reached it.

By Mr. KRUTTSCHNITT:

862 Q. My recollection is that when you identified these reports contained in the book marked No. 11, that you failed to refer to the one of 1882. Will you look at it and state whether that is——

A. In looking over it, my signature I find is at the bottom of this financial statement, with the inventory and everything else. All the other statements, my name is signed right under the report itself. It is for that reason I made that report—here it is; I did state it. I looked for it and didn't find it. I found it at the end of the report.

Q. Then the statement of 1882 is also a statement by you that you find correct?

A. Yes sir.

By Mr. BECKWITH:

Q. Will you try and recollect now, if you can, what consumer took water from the city prior to the transfer to the defendant, and got water at 15 cents per thousand gallons?

A. I couldn't give you the name.

Q. Can't you give me the district—the hydrant books were in districts?

A. I don't know. I think there were meter books; it must have been a city book. I can't recollect that.

Q. Have you the slightest recollection of any meter account coming to you from the city, either as a separate book or as contained in the hydrant book?

A. I can't say.

Q. Now will you try your best to remember some one who got water in large quantities, or small quantities, from the city, prior to the transfer of the water works, and in what district it was?

A. Well, all I can recollect is in that report that has been read there—that it was the St. Charles hotel, Pelton & Dunbar, and some of those people. But I have no recollection myself—

863 I can't recollect that.

Q. Are we to understand that you find somewhere an account between the city of New Orleans and the St. Charles hotel that contains a statement of the amount of water delivered by meter, and the price; and find it in some books?

A. I stated that I did find it. I didn't say it was the St. Charles hotel, but I did find that there was meter delivery of water, and that the rate was as stated there. I saw it charged.

Q. Do you remember what kind of a looking book it was—what size it was?

A. No sir; I can't recollect that.

Q. Have you any recollection, aside from what has been read to you, of the statements you made in your deposition in the Levy case?

A. Have I any what?

Q. Repeat the question.

A. Very little.

Q. Would you have been able to have restated the substance of that deposition if you had not had it read to you or read it yourself?

A. I think not, sir.

Defendant's counsel object to the offer of the deposition of witness in the Levy case, on the ground that this document alleged to be testimony of Edward Toby in the case of Isaac Levy *vs.* The New Orleans Water Works Company is not shown to be a copy of the testimony which he then and there delivered, and not *in*scribed by him; and that the witness on the stand has only stated that he was willing to corroborate the testimony if that was his evidence, and has no independent recollection that it was his evidence.

864 By the COURT: The objection is overruled as going to the effect, and not to the admissibility of the evidence.

To which ruling of the court counsel for defendant excepts, and reserves this note in lieu of a bill.

Counsel for plaintiff rest.

By Mr. KRUTTSCHNITT: We understand the city does not attempt to offer anything?

By Mr. MCLOUGHLIN: Not yet; we might in rebuttal.

By Mr. BECKWITH: Do you offer anything under your intervention?

By Mr. MCLOUGHLIN: Not now.

865 *Testimony of Edward Toby.*

Filed May 19, 1885.

Offered in evidence by counsel for pl'ff.

ISAAC LEVY
vs.
N. O. WATER WORKS CO. } No. —.

Mr. EDWARD TOBY, witness in behalf of the plaintiff sworn in rebuttal.

Direct examination.

By Mr. NIXON:

Q. You were at one time president and superintendent of New Orleans Water Works Co.

A. Yes, sir, for four years. About four years.

Q. When did your term begin?

A. 1878. I think to 1882.

Q. Was it immediately after the purchase of the company from the city.

A. Yes sir.

Q. You were the first president under the new organization after the water works Co. purchased and took charge of the water works from the city.

A. Yes, sir, at that time.

Q. Who was charged with the duty of fixing the rates of charges for the use of water?

Counsel for the defendant Co. objects to this evidence as not being a matter of rebuttal for the first objection. The second objection is that the question of what Mr. Toby did or what was done by the water works Co. after it became — quasi corporation is not proper evidence to show the condition of things under inquiry, but antedated that transfer from the city to this corporation.

The court overruled this objection and counsel for the defendant company reserved this note in lieu of a bill of exceptions.

A. The assessors.

Q. Under whose superintendent?

A. My own.

866 Q. Did you ascertain in any way the rates that had been charged by the city immediately previous to your taking charge?

A. I — guided copied by that?
Q. How do you mean?
A. The assessments of the previous year.

(It is understood that the objection just made is continued or renewed as to all evidence of this nature.)

Q. Were you informed as to what the previous assessments of previous years had been?
A. I found them on the books.
Q. Were the books containing those assessments then in the possession of the water works Co. at the time you took charge?
A. Yes sir.
Q. You stated that you were guided by them in making your assessments for the first year?
A. Yes sir.
Q. Do you mean by that, that you took those assessments?
A. I did.
Q. And proceeded to collect on that basis?
A. I did. That is, as near as possible.
Q. How long was that course continued?
A. Until the time I left there.
Q. You made no changes?
A. Except where I was compelled to.
Q. How do you mean you were compelled to?
A. By the condition of things that were changed.
Q. But where the condition of things did not change you made no change on what you found them?
A. No sir.

867 Cross-examined.

By Mr. BECKWITH:

Q. Did you make any personal inspection or take any steps individually, to ascertain how much water any one consumer was consuming?
A. Yes sir.
Q. What steps did you take?
A. Where they used steam I got at their coal consumption.
Q. How did you get at it?
A. I found out how much coal they burned.
Q. Do you remember having made, any inquiry as to any particular manufacturer and factory and ascertained how much coal they used?
A. Yes sir, I did all the rice mills and all the cotton presses.
Q. Do you remember the consumption of coal of any one of them?
A. I cannot recollect it.
Q. How did you arrive at that?
A. I got their bills; a statement from them.
Q. In what manner did they aid you in fixing the water rate?
A. The rates were already fixed and sometimes I had to equalize

it. Cotton presses, for instance, a cotton press like the "shippers," that rec-ived and compressed eighty thousand bales of cotton one year, the next year they might compress one hundred and twenty thousand bales and I ascertained how much water it took to compress one bale of cotton.

Q. Tell us how you estimated the consumption of water per pound of coal burned?

A. You must recollect that I am a little rusty on that now. That is the way I got it.

868 Q. How much evaporation did you——

A. I say, I can't recollect that. It has gone out of my head. I have got something else in the last three years to think about.

Q. You have no sort of an idea now?

A. No. It has entirely left my mind. That is the way I reached it.

Q. I concluded then that you thought it desirable or important to get at the water consumption in order to fix the rate. Under what rate and under what schedule did you fix the price of consumption, when ascertained?

A. I took the rates I found on the hydrant ledger; fifteen cents per thousand gallons. That was the uniform rate when I took charge.

Q. Everybody?

A. Nearly everybody. That is where they were assessed by consumption for some purpose or anything of that kind.

Q. You are certain about that?

A. I could not say. There might be isolated cases of course there are thousands of consumers here, and there might be one case here and there.

Q. Are you certain that you found one uniform rate in the city charter for charges per thousand gallons?

A. I found the charges at 15 cents per thousand gallons. I think the ledger stated that if I am not mistaken.

Q. Do you think or do you know?

A. As nearly as I can be positive of anything.

Q. State to us precisely what steps you took to satisfy your-
869 self how much coal was used for evaporating water in steam-engines.

A. There is a standard I believe of so many gallons of water to a pound of coal.

Q. I am asking you what steps you took to ascertain the amount of coal burned. Tell us what you did and all you did.

A. What do you mean by "what steps"?

Q. If you were going to estimate a man's water bill upon the consumption of coal in his furnace, you would necessarily take some steps to ascertain how much coal he burned.

A. I would take their coal bills.

Q. How did you get the coal bills?

A. They would furnish them.

Q. You never knew beyond their own statement whether it was an accurate one or not?

A. I trusted a great deal to them.

Q. Your recollection about the matter is rather rusty, you would not like to say there was a 15 cents or a 20 cents schedule would you?

A. I will tell you why my mind is clear upon that. It was in the case of the St. Charles hotel where I had to make an assessment on account of the metre having been disconnected. They took it out. It was clogged and I made an assessment on the consumption. They measured the water. The engineer of the St. Charles hotel measured his daily consumption and on that I based my assessment and made the contract with Mr. Rivers.

Q. The St. Charles hotel had always a special rate, had they not?

A. No sir.

870 Q. Is it not true that the St. Charles hotel had for years been paving under special rates?

A. They had paid as high as $1800 in one year and that on down to $1000.

Q. I mean special rates for consumption?

A. That is the special rate I made with them—$1500.

Q. Do you know anything about any "Bragg tariff"?

A. There was a tariff, I think it was Hatch. This General Bragg was in charge of it during the city's administration.

Q. What do you know about that?

A. Well, that had been abandoned.

Q. By whom?

A. By the city.

Q. How do you know?

A. By the books. By their hydrant books.

Q. Tell us in what instance they had abandoned it?

A. Because they had reduced their charge. They had been greatly reduced and the city had been reducing it for several years.

Q. What do you mean by the "city"?

A. The city administration of water works.

Q. How much dividend did your concern pay while you had charge of it. Did it never reach 10 per cent.?

A. No sir.

Q. Did it ever reach 2 per cent.?

A. Yes sir. It reached 2½ per cent., I think once. It never went over that.

Q. Do you know what that "Bragg tariff" charged for steam consumption?

A. I don't recollect about a "Bragg tariff."

871 Q. Well, the one you call the "Hatch tariff"?

A. The "Hatch tariff," I recollect, they had 30, 40 and 50 cents a thousand gallons. I forget the charge. I know it was a very high rate.

Q. When did they abandon it?

A. The books show that they are the only evidence I had of it, for a year before I took charge.

Q. Tell us how you could tell by those books that they had abandoned it?

A. Just take the books and find out where they had been making the assessments on the basis of so many gallons. They had metres before I took charge there. A great many had metres and the bills were made out from the register of the metres at so many thousand gallons and the bills were made out at fifteen cents, and I think some of them might have been 25 cents. The books of the company will show that.

Q. How long since you have seen those books?

A. 1882, I believe.

Q. Will you tell us a single instance where water was consumed at the rate of 15 cents a thousand gallons either from the city or from your administration?

A. Yes sir. The St. Charles hotel. I recollect and some of the refineries I think Pelton and Dunbar's refinery had a metre. There were several metres. I can't recollect the names of the parties.

Q. You ought certainly to recollect those transactions as well as you can recollect the books. Give us the name of any other?

A. Pelton and Dunbar and the St. Charles hotel. There was
872 a metre at the St. James, but it was taken away. I think I can't recollect who they were. There were several large metres there when I took charge.

Q. Who had metres?

A. The St. Charles hotel and Pelton and Dunbar are the only two that I can recollect just now.

Q. Is it not true that the charge made to the St. Charles hotel both before you took possession and afterwards was a round sum and not a sum per thousand gallons, of consumption?

A. Yes, it was for a year. I think it was a thousand or $750, or something of that kind, but previous to that it had been paid by metre measurement.

Q. Do you know what their consumption was estimated at?

A. The estimate we made was on so many months of the winter season on an average of so many gallons.

Q. I asked you for the estimate of so many gallons per day or for the year. Can you tell us what that estimate was predicated upon for that lump sum?

A. I don't know exactly what it was. I think the estimate of the consumption given me by the engineer for the busy season was about 35000 gallons a day if I recollect right.

Q. Is that a mere supposition or do you recollect the figures?

A. That is as near as I can recollect it. I can't carry the figures in my mind.

Q. You said something of where you had charge, you made charges and referred to some cotton press. Do you remember any other charges that you made?

A. A great many charges changed all the time.

Q. Then there was no uniform rate adhered to any great
873 length of time?

A. The condition of the changes I have explained to you.

In that instance I would have to change it. If a man increased his consumption or his consumption was changed, it was greater or less, I would have to change.

Q. On what basis of calculation did you make those changes?

A. My whole guide as I told you were the assessments that were made.

Q. Do you know whether these mills were running the same engines on the same boilers or doing the same work the year you took possession that they were the year before?

A. Some of them were and some of them not.

Q. How do you know that any of them were?

A. Because I inspected some of them myself. I inspected nearly all different operations of these things, these mills, personally.

Q. Then you can tell us what sort of consumption Isaac Levy had, what sort of an engine he had?

A. I don't recollect him at all.

Q. Stewart and Ricker. Do you remember them?

A. I don't recollect them at all. They may have been in business but their names have escaped me.

Q. Forester?

A. Yes sir, up on Julia street, I believe.

Q. Have you any sort of recollection what power he was using?

A. No, I don't recollect Allen & Syme, and Reusch and Steward and Thompson.

Q. Can you tell us the amount of coal that any of those
874 men consumed or the amount of steam power they used?

A. I have forgotten it. I got the whole account from them all and went by that statement.

Q. That is you took their statement?

A. I took their statement.

By Mr. NIXON:

Q. You said that at the time you took charge there you had the books that the city had been using?

A. Yes sir.

Q. Did you leave those with the water works Co. at the time you left?

A. Yes sir.

UNITED STATES OF AMERICA, }
State of Louisiana. }

Supreme Court of the State of Louisiana.

I hereby certify the foregoing to contain a true extract from the record of the proceedings had in the civil district court for the parish of Orleans, in a certain suit wherein Ernst and Company were plaintiffs and The New Orleans Water Works Company were defendants, which record is on the file of this court under No. 9894.

In testimony where- I have hereunto set my hand and affixed

the seal of said court at the city of New Orleans this second
875 day of December, annoque Domini, one thousand eight hundred and ninety-nine, and in the one hundred and twenty-fourth year of the Independence of the United States of America.

PAUL E. MORTIMER,
Deputy Clerk.

Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for plaintiff in rebuttal, taken in open court, January 17th and 18th, A. D. 1900, before the Hon. George H. Theard, judge.

Present: H. J. Cunningham, attorney general, and B. R. Forman, for plaintiff; J. J. McLaughlin and C. C. Frederichs, for City of New Orleans; Messrs. J. R. Beckwith and Farrar, Jonas & Kruttschnitt, for defendant; B. K. Miller for Board of Liquidation.

Counsel for plaintiff offer, introduce and asks to be filed in evidence, the following entry at page 91 of the Minute Book of the New Orleans Water Works Company, of date –nd of January, 1884:

876 "On motion of Mr. Houston, it is resolved that in the matter of The City of New Orleans *vs.* This Company for taxes, the attorneys for the company be instructed to ask the supreme court of the State to declare the entire contract and charter of the company null and void, in the event that the said court determines that the company is not entitled to exemption from taxes or full payment for water supplied to the city." "Yeas, Messrs. Baldwin and Houston; and Abraham. Nays, Hon. W. J. Behan and Hon. B. T. Walshe."

(Signed) L. H. GARDINER, *Sec'ty.*

Also, offers in evidence transcript of the record in the case of City of New Orleans and Joseph Shakespeare, mayor, *vs.* New Orleans Water Works Company; the said transcript of the record being Eefendant's Dxhibit No. 3, in this cause.

Plaintiff's counsel also offers, introduce and asks to be filed in evidence the advertisement of intention to apply for the act of 1884 at page 39. The note of evidence and admission entered at page 41 in reference to the same subject and the receipted bill of the Daily States showing that the water works company paid for the advertisement.

Objected to by defendant's counsel on the ground that these offers are not in rebuttal; that no evidence pertaining to any issue upon which they might be relevant was offered by the plaintiff in open-

ing this case and that the same are therefore tota irrelevant in any issues presented to the court by the evidence offered in chief.

By the COURT: I overrule the objection, reserving the right
877 to the defendant, if they so desire, to offer rebutting evidence.

To which ruling of the court defendant excepts and reserves this note in lieu of a bill.

H. L. FAVROT, recalled in rebuttal, deposes and says:—

Direct examination by Mr. FORMAN:

Q. When first examined by the plaintiff in chief, you stated that there were times at your place on Henry Clay avenue, when you could not get any water from the water works company; I will ask you whether, or not, that condition of things had ever existed at other times when there were no droughts, when there were no spells of dry weather?

A. Well, sir, that is almost an impossible question for me to answer directly of my own knowledge, for the reason that I am not at home all the time and it is impossible for me to say; in these instances that I mentioned before they came under my personal supervision and naturally I could swear to them; but I cannot say that, because I do not recall from memory any particular circumstances outside of those which were so flagrant that were brought to my particular attention.

Q. Was there any particular deficiency in the rain supply at the time that they were brought to your attention?

A. At the time that I made the complaint to the water works company, as set forth in the letters that I brought here, it was during a period of drouth; they claim in their answers to me that there was such a demand made upon them for water that
878 they couldn't supply it.

Q. Has there been any deficiency in the supply since the pipe was put up on the swamp side of St. Charles avenue, from State street to Carrollton?

A. I don't know sir; I don't know when that pipe was put up.

Q. Has there been any deficiency in the last two or three years?

A. Well, I cannot say positively as to that sir; one year, a whole year, I was away from here.

Q. Since you came back?

A. I came back in April 1899.

Q. Has there ever been any deficiency since you came back?

Objected to on the ground that it is after suit was brought.

Counsel for plaintiff state that the defendants have gone into the examination of that question, on the theory that whatever conditions exist in relation to the supply since suit was brought are presumed to have existed before; that the door has been opened by defendant to this line of evidence.

Objection withdrawn.

A. Yes sir.

Q. When did it exist?

A. I was laid up for a whole month this summer sick in bed, at home; month of September or from the 3rd day of September to the 28th and there was not a day from eight in the morning until five o'clock in the evening and frequently outside of those hours, when it was not almost impossible to get water in the closets upstairs.

879 *A.* Was there any period this fall, and that you mentioned to me while this trial was going on that one day you could not get any water at all?

A. Yes sir; but I don't remember the specific dates; there have been several instances where it has been difficult to get water during the fall, but I don't remember the specific dates. This I fix by the circumstance of my illness.

Q. Without remembering the specific dates, is it a fact that since that, this fall, in October and November, you have not been able to get water?

A. Yes sir.

Cross-examined by Judge BECKWITH:

Q. What month did you say, since you came back, that you had a deficiency up there?

A. Notably in the month of September; that was brought under my specific notice.

Q. September of this year?

A. 1899.

Q. In the midst of a horrible drouth, wasn't it? Unprecedented drouth?

A. There was quite a drouth, yes sir.

Q. Don't you know that all the fire-hydrants were open all the time, during that time?

A. No sir, I didn't know it.

Q. You travelled in the cars, didn't you?

A. No sir, I was sick in bed.

Q. Oh, you were sick in bed; what did you say, I didn't hear what you said about the hours, from seven to five, were they from seven to five in the daytime?

880 A. From seven in the morning until five in the afternoon; it was almost impossible to get water in the closets.

Q. Did I understand you to say that during that time you got water in the morning and other times you did not?

A. Almost impossible to get water up all during the hours from seven in the morning to five in the evening.

Q. That was during the entire course of the unprecedented drouth, wasn't it?

A. Some time during the month of September.

Q. Did you know that hydrants were thrown open unlawfully and, by the city authorities, unlimitedly almost up there?

A. No sir, I don't know anything about that.

Q. You never heard of it?

A. I may have sir; I don't think there were a great many hydrants there—but I don't know anything about it.

Q. Didn't you know that there was a heavy draft on that main—from the newspapers?

A. Well no sir; when it comes down to a question of hearsay, I know from hearsay that there was so often a deficiency of water in the closets upstairs that I rather attributed it to the supply.

Q. Do you mean deficiency in supply on account of there not being pressure enough on the stand-pipe; or not enough capacity in the pipe to meet the demand up there?

A. I don't know sir; I have not gone into that at all.

Q. Were you not aware, by hearsay, or otherwise, and didn't you know from the newspapers, that there was a large amount of water being supplied at that time to those who were destitute of water, on account of the drouth?

881 A. As a general proposition, I believe that was so.

Q. After the hour of five, you had no trouble, did you?

A. Frequently sir; but there was less trouble after five o'clock in the evening than before.

Q. Will you tell me what is the highest point from the ground of your highest fitting?

A. Well, that I don't know sir; because it is erected on the second floor at just a few feet above the floor; I don't know exactly what the height of the floor is; probably 14 feet; I suppose twelve to fourteen feet, and four feet from the ground would make it in the neighborhood of 18 feet about.

Q. How far are you from St. Charles avenue?

A. About two hundred feet, sir.

Q. You have no kind of doubt about the 12-inch main and four-inch service to your house giving water enough for your water-closets and things, have you?

A. I don't understand that sir.

Q. You have not any kind of doubt about the 12-inch main and four-inch service to your house giving water enough for your water-closets, etc., have you?

A. I suppose it ought to give water enough to supply all the time.

JAMES LEGENDRE recalled, in rebuttal, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you were a member of the bar of New Orleans, for a number of years?

A. Yes, sir.

882 Q. Previous to your electrical fire of the 26th of February, 1899; did you have a place in Audubon Park place, opposite Audubon Park?

A. I did.

Counsel for defendant renews the objection heretofore made to this class of testimony, on the ground that it is with reference to occurrences that took place after the suit was instituted.

Counsel for plaintiff wishes to locate the witness' house, and offer testimony in rebuttal of the testimony of some of the plumbers.

Q. This place is something like a quarter of a mile above State street, isn't it?

A. Yes sir, I should think about half a mile above.

Q. Did you have at your place there, before it was destroyed by fire, water from the water works company?

A. I did.

Q. I was on the wood side of St. Charles avenue?

A. Yes sir.

Q. Were there any times, during the day, when you did not receive a sufficient water supply?

A. You mean previous to the fire of February 26th, 1899?

Q. Yes.

A. Yes sir.

Q. During what hours of the day?

A. It often happened that between the hours of 11 and 3, I would get a very short supply of water; not sufficient for the bath-rooms.

Q. How high up were the bath-rooms?

883 A. The bath-rooms were about 20 or 22 feet above the ground.

Cross-examination by Judge BECKWITH:

Q. Do you remember what time of the year it was that you were troubled in that way?

A. I moved into the house on the 15th of January, and it was burned on the 26th of February.

Q. The hours you speak of were in the daytime, weren't they?

A. Yes sir.

Q. Haven't you seen the hydrants used on that line of St. Charles street, by the city authorities, for washing?

A. No sir, I have never noticed any, because I was up there such a short time; but the house which was burned has been rebuilt, I moved into it three weeks ago, and I have all the water supply I want now.

Q. You had all the water supply you wanted before, except that period after eleven o'clock that you spoke of?

A. Yes sir; I had a good water supply at night and in the morning, but from say eleven o'clock until say two or three o'clock in the evening, I didn't get a good water supply.

J. J. MANSON, recalled in rebuttal, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you had a house in Audubon place, near Mr. Legendre, which was also destroyed by fire a short time before his?

A. Yes sir.

Q. What was the condition of the water supply any hours of the day before your house was burned?

A. Well, I usually had a very good supply, sir, but once in a while it would not run on the upper floors.

884 Q. At what time?

A. Between eight and ten.

Q. Between eight and ten?

A. Yes sir, that was about the only hours I was at the house to try it.

Cross-examination by Judge BECKWITH:

Q. Your place was in the Audubon Park, was it not?

A. Yes sir.

Q. That is a sort of square or territory, with streets of its own leading off St. Charles avenue?

A. Yes sir, one street, which is divided, there is a neutral ground in the center.

Q. Do you know what the service, that was taken into that place from St. Charles avenue, was, in diameter?

A. No sir, I do not.

Q. How many houses are there in there?

A. Now?

Q. How many houses were there in that space at that time?

A. Some ten or twelve sir.

Q. You all took water from one or two services coming from a twelve-inch main on St. Charles avenue?

A. Well I think each side had a separate service.

Q. How, you had pressure enough at other hours in the day, didn't you?

A. I think so sir, of course I could not answer that; not being there.

Q. I mean when you were there?

A. I heard no complaints, no sir; but I was only there in those hours.

885 Q. What time did you leave there to go down to business?

A. A little after eight; eight or a little afterwards, sir.

Q. What time did you return?

A. After six at night sir, or about that.

Q. Then you were not on the route there at any time during the hours the street gangs were cleansing the gutters?

A. I may have been, but I usually read the morning paper coming down in the cars; and I seldom look out sir.

PHIL. R. RICE, recalled for plaintiff in rebuttal, deposes and says:

Direct examination by Mr. FORMAN:

Q. I believe you also had a house adjoining Mr. Manson's?

A. Yes sir.

Q. It was destroyed by the same fire?

A. Yes sir.

Q. You have already testified that you had the water of the water works company there?

A. Yes sir.

Q. Was there any period of the day, before the fire, in which you had any deficiency of water, or pressure?

A. In the mornings, generally, before I went to the office, I noticed it.

Q. How high up did you have your service?

A. It was about forty feet, I think, as near as I can remember. I supplied the third tank with water and that supplied the entire house.

Q. During what hours was it that you noticed the water would not run?

A. Well, up to the time that I left in the morning we
886 would not get the service at all; that was about 9 o'clock; then my man would complain about it during the day; we generally get it filled at night.

Q. Did your water deliver directly to the openings, water-closets, etc., or deliver into a tank?

A. Delivered into the tank first.

Q. And then from there into the service?

A. Yes sir.

Q. Did you go up and look into the tank to see if the water was running in there?

A. Yes sir, we had a ladder up to it.

Q. Delivered into the bottom or *tank* of the tank?

A. It ran through the top of it, yes sir; I had a *guage* also running down so I could tell whether there was any water in the tank, or not.

Q. You are perfectly certain that all cocks were open from the mains up to your tank at the time the water did not run?

A. All the cocks were open, yes sir.

Q. You would not set up such a pipe without a stop-cock in it somewhere?

By Mr. FORMAN:

Q. Was there any obstruction in the pipe?

A. Oh no sir, none whatever.

By Judge BECKWITH:

Q. What I mean to ask you is—I am asking the question myself did you have any stop-cock between where you took the water from the main, or the service in Audubon place, and the top of the pipe which delivered into your tank?

887 A. There was—right where it delivered, that worked on a valve or a ball; the minute the tank filled this ball rose and stopped it.

Q. Didn't you have another cock between there and the ground?

A. Only a faucet in the bottom, if that is what you mean?

Q. No, I mean on the service up to your tank?

A. Oh yes sir, there was one in between; one about three-quarters of the way down; there was a cock there to shut the water off and on in case of a freeze.

Q. Do you know that those were open?

A. Yes sir; it was always open, only in case of a freeze.

Q. It was that could be opened and shut?

A. Yes sir.

Q. Who takes charge of your tank—the negro?

A. No, I did that part of it.

Q. And the negro servants cannot get at that to meddle with it?

A. No, I would notice it if they did, because it was outside.

Q. What was the size of your tank on the roof?

A. The one below or the one up top?

Q. Up top.

A. It held about a hundred gallons; it was a galvanized tank on the top of the third cistern.

Q. How much storage of water had you there that led to your various openings; weren't all of your storage tanks right there?

A. I only had that one tank that held 100 gallons, about.

Q. My impression was, that you had a reserve tank somewheres?

A. No sir, that only supplied a certain part of the house; that didn't supply everything; I had a cistern for the yard, for
888 instance, everything on the first floor was supplied by the first cistern, on the second floor by the second cistern, but the cistern (second cistern) was not tall enough to run the closets because they were about eight feet high from the floor of the second floor; so I supplied them with this third tank, and as that was higher than the roof I couldn't get cistern water into it and had to use river water.

Q. I never saw an automatic ball-cock that worked half the time; are you sure that yours did?

A. Oh yes; we never had any trouble at all with that.

L. YOUNG, recalled in rebuttal, deposes and says:

Direct examination by Mr. FORMAN:

Q. You testified before that you operated a bakery opposite the Poydras market?

A. Yes sir.

Q. And used hydrant water?

A. Yes sir.

Q. Will you state whether, or not, you could get any water in your place at all, when they were washing the market?

A. Well, not at all times, but I noticed occasionally that between the hours of 12 and 2 that there would be a stoppage of water on the premises and upon trying to locate the matter, making an inquiry, I would find that there was a prison gang in the market, cleaning out the market and taking the draw from the plug then in the market.

Q. How high is your hydrant on the second floor, from the ground?

889 A. On the second floor, I would judge it about 15 feet high; on the second floor, about fifteen feet high ran a low roof right over the workshop.

Q. Were there ever any occasions when the water would not run out of that?

A. Yes sir; quite frequently.

Cross-examination by Mr. BECKWITH:

Q. Quite frequently, you mean when they were washing the market?

A. No sir, that was an every-day occurrence; that was in this way; if I left the ground faucet—it was on the ground; if I left that open there was a stoppage of water, or small in flow.

Q. What size pipe runs up to your water-closets?

A. I am not positive; I think about an inch pipe; about the circumference of a silver dollar.

A. The outside diameter is about an inch and a half?

A. Well now, I should think about an inch and a half on the outside.

Q. What is the size of the cock downstairs?

A. Size of faucet, I am not positive about.

Q. You couldn't expect it to run above, with that faucet running, could you?

A. I couldn't say more than that it is an ordinary faucet that I see anywhere.

Q. What size service have you got into your place?

A. Under ground, from the main?

A. Yes; three-quarters of an inch, ain't it?

890 A. I am not positive about that.

Q. Is the pipe that runs up to your water-closet iron or lead?

A. It is an iron pipe.

Q. Regular gas pipe?

A. Yes sir.

Q. Isn't it three-quarters gas pipe; what is called three-quarters gas pipe; it would be a little more than an inch outside?

A. Well, I said I couldn't be positive about that.

Counsel for plaintiff, Mr. Forman, says he saw it and that is what it is.

A. I wouldn't be positive about that; I have no knowledge as I told you.

By Judge BECKWITH:

Q. And your faucet is a three-quarters brass faucet?

A. It is the ordinary faucet I see almost everywhere and anywhere.

Q. And when that is open the water don't run above it?

A. No sir.

FREDERICK FRERET, recalled by plaintiff in rebuttal.

Direct examination by Mr. FORMAN:

Q. How long have you lived on Second between Dryades and St. Charles?

A. Since 1856.

Q. How many houses are there on Second street between Dryades and St. Charles?

A. Forty houses on the two sides opposite the market.

Q. Has there ever been any water main?

A. One moment—by houses, I mean tenements; I mean
891 to say where there is one roof covers to habitations that is two houses.

Q. And a considerable number of single houses?

A. Yes sir.

Q. Has there ever been any water main on Second street, between those two points?

A. Not to my knowledge.

Cross-examination by Judge BECKWITH:

Q. Has there ever been any application to the company to run a main there for the service of those houses?

A. I don't know that there has.

Q. Do you know of anybody subscribing to it, to the amount of ten per cent., cost of running, has any such petition been sent around?

A. There was a petition gotten up some 12 or 14 years ago, but I believe there were not enough subscribers found.

ELIAS RICHARD, sworn for plaintiff, in rebuttal deposes and says:

Direct examination by M-. FORMAN:

Q. What is your occupation?

A. Superintendent of Maginnis cotton mills.

Q. Are you a mechanical engineer?

A. No sir, I am not; I have a knowledge of mechanics as a portion of my business.

Q. Can you tell us what the water consumption of the Maginnis mills is?

A. Yes sir.

Q. What is it?

892 A. It varies from 303 to 340 gallons per minute.

Q. How many hours a day does it work and carry on that consumption?

A. Eleven hours, now.

Q. Did it ever run any less hours?

A. Yes, sir, ten hours, previous to March last year.

Q. What are its sources of water supply?

A. Artesian wells, three of them.

Q. How did you get at its consumption of water?

A. By measurement; I measured the velocity of the water; the water runs through a pipe ten inches across and is two inches deep, and flows at the rate of 35 feet in ten seconds—that is 210 feet a minute and by calculating, that makes 83 gallons; I also measured it—we have a tank into which all the water is pumped by the compressor. The tank is measured and operated and I tried it in that way too, and it varies in the tank from 303 to 340 gallons. I have also calculated it from the steam theoretical calculation which is not absolutely correct. The amount of steam thrown into the condensor, and water out of the condensor.

Q. How long have you been acquainted with the Maginnis mills?

A. Seven years, superintendent.

Q. Has there been any increase in its consumption since you have been there?

A. Yes sir, we have added considerable to our machinery; we put in about 168 looms and about 520 or more spindles, one carding machine, and one cone winder.

Q. In what proportion would that affect the consumption of water?

893 A. In proportion of extra horse-power.

Q. How much is that?

A. 100-horse power.

Q. How many gallons will that amount to?

A. It would be the eleventh part of that water which is used.

Q. How much water were they using when you first came there, seven years ago?

A. 243 gallons a minute; 230 to 243 gallons.

Cross-examination by Judge BECKWITH:

Q. What is your trade or occupation?

A. Superintendent of the cotton mill.

Q. Superintending the manufacture of textile fabrics?

A. Yes sir, and machinery.

Q. Were you ever a mechanical engineer?

A. I worked in a mechanic shop; not a graduated mechanical engineer; I worked and set up machinery and had all the machinery in the cotton mill.

Q. What engines have you got there?

A. We have got two engines there; one is a Corliss high pressure, and the other is an Alliss Corliss compound engine.

Q. Which one is the condensing engine?

A. The Corliss engine.

Q. Know anything about steam?

A. Yes sir.

Q. Ever run an engine?

A. Never run an engine, but I have had charge of a very great many of them and had engineers under me.

Q. Ever looked after an engine?

894 A. Excepting in indicating and shut off; I have indicated the engines several times.

Q. How many units of heat are there in a cubic inch of water expended to a pressure of 110 pounds?

A. I couldn't remember, sir.

Q. Did you ever know?

A. Yes sir, I have got tables of all that sort of thing, calculate it.

Q. How do you calculate it?

A. From physical tables, I have got Elisha Grey's physical tables and other physical tables, and from that calculate it.

Q. At what pressure of steam does your low pressure have its piston pump?

A. Ten pounds.

Q. Ten pounds?

A. It lifts the high-pressure engine at ten pounds.

Q. I asked you not the high pressure, I said——

A. That is the initial pressure.

Q. I mean piston pressure?

A. I cannot remember just what the average pressure is.

Q. Where is the direct cut-off?

A. At one-fifth part of the stroke; it ain't absolute though, it varies according as to the load.

Q. There is an absolute cut-off on every Corliss engine isn't there?

A. One-fifth, if there is, it is one-fourth—but it varies according to load.

Q. How many cubic inches of steam will your cylinder have at that pressure?

895 A. It will have about a foot; that is in the low-pressure cylinder.

Q. 1728?

A. About 1728.

Q. How many units of heat to the cubic inch when it passes from the reception cylinder into the condensor?

A. I calculated it takes about five gallons of water.

Q. I don't care about your gallons; I ask you how many units of heat?

A. I can't remember without tables; I cannot remember.

Q. Did you ever know?

A. Yes sir.

Q. What is the temperature of the water?

A. The temperature of the water——

Q. Wait a minute until I get through; what is the temperature of water when it enters the hot well for condensation?

A. 160.

Q. Always?

A. About—it varies at times.

Q. How many units of heat then has it been necessary to remove from the steam at the final exhaust to get a temperature of 160?

A. Multiply the units of heat by the degrees.

Q. Is that the way you get at it?

A. Well, according to formula; I have a formula for all that, I can't remember just the formula.

Q. Are you certain you understand all those formulas; it requires some knowledge?

A. Yes sir, I can work them all out; I understand all those
896 formulas; I don't carry them in my head though; the whole of them, can't do it.

Q. What is the temperature of water when it passes out of the injector into the condensor?

A. I told you 160.

Q. No—no.

A. Oh, the water—75 degrees, about.

Q. Well water?

A. Yes sir.

Q. What with the city water?

A. I cannot tell you.

Q. Did you ever know?

A. We don't use it; it varies.

Q. You did, didn't you, when you went there?

A. Yes, but it varied every day in temperature, according to the weather.

Q. Will you tell us how much water it takes at a temperature of 75 to take out heat from your exhaust steam to make it fluid?

A. 303 to 340 gallons.

Q. That is just for the condensing alone?

A. That is just for the condensing alone and the condensing of water is after you take the feed off the boilers and for any other purpose.

Q. How much water does a horse-power use, in ten hours?

Q. In what sir?

Q. How many gallons will be necessary to develop it?

A. To develop a horse-power in ten hours?

Q. Yes, the development of a horse-power in ten hours.

897 A. I cannot remember.

Q. Did you ever know?

A. Yes sir.

Q. When?

A. When I was at the mill, sir no, any time.

Q. You have nothing else to do but watch the engines?

A. Yes sir, I have a great deal to do besides watch the engines.

Q. Do you know, or are you willing to state on your expert knowledge, that 303 gallons of water will condense the steam which is in that one engine?

A. Yes sir, 303 to 340, that was my statement.

Q. Well, will 340 do it?

A. Yes sir.

Q. How do you know?

A. By calculation and by actual measurement.

Q. How did you measure it?

A. I told you I measured it in the trough, in the first place and

I measure it in the piston in the second place; I told you how I measure it.

Q. Measure it in the trough outside?

A. Yes sir, as it came from the condensor.

Q. That you thought was the water measurement, did you?

A. Yes sir.

Q. Well, now we come to the non-condensing engine; how many horse-power is that?

A. How many horse-power?

Q. Yes?

A. That is, as indicated from the indicator figures 589-horse power.

898 Q. Runs by steam, doesn't it?

A. Yes sir.

Q. Uses water, doesn't it?

A. No sir; not for condensing purposes, only for steam and that is used directly from the boilers.

Q. Please answer my question?

A. I tried to sir.

Q. That non-condensing engine runs by steam?

A. Non-condensing, yes sir.

Q. And to get steam you have to use water?

A. Yes sir.

Q. And you have to get the water somewhere?

A. Yes sir.

Q. Where did you get it?

A. Out of the artesian wells.

Q. Out of the hot well—isn't the water taken out of the hot well?

A. The water is taken from the artesian well into the boiler and made hot.

Q. You don't take any water from the hot well for the boilers?

A. Yes, we do; but it comes from the artesian well first.

Q. That came from the earth before it got into the artesian well?

A. Yes sir.

Q. I am asking you now, where you take water from, for steam, that you use in the non-condensing engine?

A. From the condensor.

Q. You mean from the hot well?

A. From the hot well, yes sir.

899 Q. Well, that exhausts into the air, does it not?

A. Certainly.

Q. Certainly if it is non-condensing it does exhaust into the air?

A. Yes sir.

Q. Then you would not get that water in your run-away then?

A. What is that sir?

Q. You would not get that water that is used—part of your steam power wouldn't go into that run-away that you mention?

A. The whole of it goes into that run-away that I mentioned, except what was used for the boilers.

Q. Of course; that is what I am trying to get at; that is, your

condensed steam from the non-condensing engine may go into that waste-way; but what I want to know is how you get the water from the non-condensing engine into that waste-way, that is what I am after.

A. The water from the condensed steam—the water goes out into the air, sir.

Q. Then it don't go into the gutter?

A. But that is no water at all.

Q. You have a way of running a 500-horse-power engine, without water; the world wants that bad?

A. The water that drops down from the steam, that is all.

Q. How much water must you consume, per ten hours to develop a horse-power in that non-condensing engine?

A. You are confounding the two sir, the high-pressure and the low-pressure engine.

900 Q. Do you understand machinery enough to know that I am now calling your attention directly to the non-condensing engine; please do not mix this all up—we have got down to the other one?

A. All right sir.

Q. How much water must you consume, per ten hours, to develop a horse-power in that non-condensing engine?

A. Witness consults book.

Q. You ought to know without tables; any man that knows anything about engines does.

A. I have got a memorandum of the exact amount.

Q. You might as well have a memorandum of the multiplication table; that is the alphabet of steam engineering.

A. The total amount of water?

Q. I don't ask you what you use, please answer my question; I asked you how much water must be evaporated to maintain the dynamic energy of one-horse power for ten hours in a non-condensing engine?

A. About three gallons.

Q. Three gallons of what?

A. I cannot remember, I couldn't tell you exactly.

Q. Would it take thirty an hour?

A. I can't tell you exactly.

Q. Are you any better posted in steam engineering in any other directions?

A. I have answered all your questions correctly and that is unnecessary.

Q. Now, I ask you again, whatever it takes to run that non-condensing engine for ten hours, in the way of water, what becomes of the water after the steam is exhausted from the cylinder?

901 A. It runs out into the street.

Q. Goes out fluid?

A. The water does, yes sir.

Q. That engine exhausts fluid instead of steam?

A. You are speaking of the low-pressure engine.

Q. I will ask you to forget the low-pressure engine, if you please and consider that it does not exist.

A. Well, the high pressure?

Q. That is what I asked you about, the high pressure.

A. It goes out in the air.

Q. Well, then it don't go into that gutter?

A. That is steam that goes out into the gutter.

Q. Well then, all the water that is evaporated for the running of your plant, instead of going to that gutter runs into the air.

A. Not all of it; there is no water used for the condensing of the steam, that steam is high pressure and that is merely the water.

Q. Will you remember that this is a non-condensing engine?

A. Yes sir.

Q. Don't lose your grip on it; now, I ask you if that engine exhausts water or steam?

A. Exhausts steam.

Q. Where does that steam go?

A. Into the air.

Q. Then it don't go into the gutter that you mentioned?

A. That is steam, couldn't measure steam.

Q. Are you a steam engineer? Where does that steam go?

A. Goes into the air.

902 Q. Then it don't go into your gutter?

A. Well, it is not water, I couldn't measure steam like water.

Q. It becomes water as soon as the temperature gets low enough doesn't it?

A. It becomes vapor.

Q. Steam will maintain its character as vapor until it loses heat enough for its dispersion; at what time does steam become vapor; at what temperature?

A. At anything below 212 degrees.

Q. It has not reached that temperature when it comes out of your buildings, has it?

A. It reaches it immediately after getting out, when it comes in contact with the air.

Q. How much auxiliary engines have you got there; you have got a pump *from* compressing air in the wells?

A. Yes sir, we have.

Q. What is the size of that?

A. I don't remember.

Q. Do you happen to know the horse-power? No, I don't believe you know that, I ask you its dimensions, we can find that out, you give us the dimensions.

A. I forget the exact measurements; it is about a 12-inch steam cylinder.

Q. That don't mean anything; what is the length of the stroke?

A. I forget the exact length; I have not taken the dimensions.

Q. You are not in very good condition to tell how much horse-power that engine will develop—do you know the piston pressure?

A. I don't know; I never indicated that.

903 Q. Is that the kind of investigation you made? Tell us whether that is a condensing, or non-condensing engine?

A. It is non-condensing.

Q. That steam goes into the air too?

A. Very trifling.

Q. Trifling?

A. Yes sir.

Q. What do you mean by trifling?

A. The quantity of steam used by it is small.

Q. Well, what is your pressure?

A. I have not indicated the engine.

Q. What pressure is used on it?

A. One hundred pounds pressure, the same as the other.

Q. Where is it cut off?

A. Cuts off at about one-eighth part of the stroke.

A. An automatic cut-off?

A. Yes a fixed cut-off.

Q. Is it a double valve, or is it cut off on the eccentric?

A. It is cut off on the eccentric.

Q. Did you ever notice now that is cut off?

A. Not particularly.

Q. Then you don't know anything about that; suppose it cuts off at one-fifth of the stroke, how much water is required to make that steam that will go into that cylinder before the cut-off closes it at 110 pounds pressure?

A. Depends on the size of the cylinder and length of the stroke.

Q. Of course it does; but I ask you whether you know enough to tell; it is easy computation; it is as easy as lumber measure.

904 A. I don't know exactly.

Q. Isn't it several hundred?

A. No.

Q. How much do you think it is; what do you think?

A. I don't understand your question.

Q. How much water is required to make that steam that will go into that cylinder before the cut-off closes it at 110 pounds pressure?

A. Take very little; I couldn't tell you exactly without making the calculation.

Q. Can you tell us how much water it would take to make a cubic inch of steam at that pressure?

A. I couldn't tell exactly.

Q. Then the supposition is, that you don't know much about it?

A. No.

Q. Well now, there is another auxiliary use of steam, isn't there, for driving the well—air pressure in the wells?

A. The compressor does that.

Q. Is that the one you have been talking about?

A. Yes sir.

Q. You have other auxiliary engines there, haven't you?

A. We have pumps; we have the boiler pump there.

Q. You don't know how much steam that uses; are they condensing or non-condensing engines?

A. Non-condensing.

Q. They exhaust into the air?

A. Yes sir.

Q. Do you think it quite a fair thing to estimate the
905 amount of water that the mill uses by measuring the outflow, after it is exhausted into the air.

A. Yes, sir; because of the way in which I measured; I measured on Sunday and cut off the supply of the boilers while I measured, so that I measured water that was actually used for all purposes.

Q. Excepting steam?

A. Yes sir, for steam too, because the water for the steam is taken from the hot well, that gets the total amount of water used.

Q. What was the size of the stream?

A. Fourteen inches across; two inches deep and flowed at the rate——

Q. Is that all the water that ran out of your mill?

A. Yes sir.

Q. 14 inches by two deep?

A. Yes sir; fourteen inches by two deep, running at the rate of thirty-five feet in ten seconds.

Q. How long has that been the state of affairs?

A. Indefinitely.

Q. Will you state as an engineer, on what little knowledge you have got of it; will you state positively that, that number of gallons will condense the water that is used in that non-condensing engine?

A. The steam that is used, you mean, yes sir.

Q. What will it be?

A. Yes sir, just swore to it; I am under oath.

Q. On your judgment as an expert?

A. No sir, on my actual knowledge.

906 A. A. MAGINNIS, recalled, deposes and says:

Direct examination by Mr. FORMAN:

Q. What was the increase in your cotton mills at the time that you had the controversy with the water works company as to the bill of $7500, for the year's supply?

A. That was in 1888–1889. In 1887 we had one mill, known as No. 1 mill; in 1888 we commenced building the No. 2 mill, and commenced running about December 1888. The No. One mill I think had two hundred and fifty looms; and we placed room in the No. 2 mill to contain 900 looms, but in 1888, I think we had about 700 in No. 2 mill.

Q. So you more than doubled your capacity?

A. More than doubled; because we had 350 in No. One and we have now 1216.

Q. Has your consumption of water proportionately increased?

A. It has in this year, and of course, proportionately increased over mill No. 1 after we started mill No. 2.

Q. Did you ever refuse to allow the water works Co. to put a meter there to test the amount?

A. Never.

Q. At the time there was an increase in price demanded by the water works company for the use of water at your oil mills and soap works; was there any increase in the amount of the consumption and demand?

A. No.

Q. Are there any facts connected with the water works company which I might have overlooked which are at all pertinent or in rebuttal of any testimony given by the witnesses in reference to your mill and soap works?

907 A. That is almost ancient history; that was all settled and adjusted; that is ancient history and goes back 15 or 20 years.

Q. Are there any facts in connection with the water supply of the cotton mills that I may have overlooked, or any statement of interest?

A. Only this one; I started my No. Two mill in 1888; like all mills starting in the city of New Orleans we had to break in all of our help and I commenced in the mill by running fifty looms; then seventy-five, then one hundred; then one hundred and fifty and two hundred in 1888, and it was not until 1890 that I got the looms that were in that mill then in full operation, because all of the help had to be broken in to their work and I didn't consider that I was using the volume of water claimed.

Q. Some testimony has been given here by the defendant as to the measurement of the water flowing through the gutters; are there any sources from which the water might reach the gutters, then from your mill?

A. Well, from reading the testimony the expert took the measurement corner of Magazine and Calliope, when naturally all the water from the Mississippi river, on that side of Calliope street, and all intersecting streets; all hydrants, wash-tubs and plugs would naturally flow down Calliope street on that side.

Q. Have you any means of judging how your consumption of water would compare with the consumption of water of the New Orleans Ice Company on the adjoining block?

A. In 1899?

908 A. Yes.

A. Well, I should judge in 1899 that I was using less water than any ice company in the city of New Orleans.

Q. What time did you have the meter put in?

A. In 1889 I made application for it through my attorney W. S. Benedict, in a letter asking the water works Co. to place a meter in the Maginnis cotton mills.

Q. Well has there been any complaint of that meter not working properly?

A. I never heard any complaint that the meter was not working properly.

Q. No complaint that it was wearing so that it did not measure the proper quantity of water at all?

A. Never, on the contrary, it has been tested by the water works company by their placing another meter to check that meter for months. I have here all the bills and statements that I promised I would bring from the water works Co. from the commencement all checked off.

Q. Are these all your receipts from the water works Co. that you can produce?

A. Yes sir, receipts and copy from my books as to amounts paid out from 1882 to 1899.

Documents produced, are offered in evidence in connection with his testimony, being seventy-seven receipts and two statements produced by him.

Q. Explain the charge of $1200 by meter measurement.

A. By meter measurement; I think it was 1887—there has been some comment, I would like to have it all straight—in 1887 by meter measurement the water works company duly pre-
909 sented to the Maginnis Mill Co. "Amount due $1285.78" that was owing to the fact that water being exhausted in the artesian wells and we were unable to obtain a supply of city water even, we used the water of the water works company through the meter, as per bill rendered there, through the summer months; it states about the amount of water we were then consuming, together with a small amount taken from the artesian wells; the following year 1888, with the air pump, and before we got the air pump working well, the total bill was $786.80 to the city water works. I would also state that the Maginnis cotton mills were using for condensing purposes their artesian water, and not the Mississippi water from the water works Co. In the year 1889 we used exclusively artesian water, and the water works company water they didn't use in there. I would like to make that statement for the reason that a great many people have been led to believe that all this vast river of water running down Calliope street was water works company water, when it was really water the property of the Maginnis cotton mills.

No cross-examination.

Reserving the benefit of getting the information called for from Mr. Gardiner, and with counsel authorized to ask any questions concerning the statement furnished; with the right to Mr. Forman to examine the witness out of court, in the presence of either counsel.

Plaintiff rests.

910 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for defendant, in above entitled and numbered cause, taken in open court this 18th day of December, A. D. 1899, before the Hon. Geo. H. Theard, judge.

Present: Messrs. B. R. Forman, J. J. McLaughlin, and C. C. Fredericks, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and Howard McCaleb, for defendants.

W. T. MAGINNIS, being first duly sworn deposes and says:

Direct examination by Judge BECKWITH:

Q. You are secretary, at present, of the Maginnis cotton mills, are you not?

A. Yes sir.

Q. It is a corporation, is it not?

A. Yes sir.

Q. How long have you been secretary?

A. I was elected at a meeting of the directors held on June 19th, 1895, when my uncle C. B. Maginnis left the city to live in the country—June 19th, 1895.

Q. Was any writ from the court served on you, or Mr. Maginnis to produce any books?

A. Yes sir.

Q. What books did the writ call for?

911 A. I don't really know exactly what they were; the writ came in on last Saturday, I think it was, and I talked the matter over, and they said when I came down today that you would tell me exactly what was wanted. I don't know, as a matter of fact, as far as the books are concerned sir, our book-keeper is more familiar with them than I am, and if you want any detailed information I am not in a position to give it to you as well as he might.

Q. What is your book-keeper's name?

A. Mr. Paul Deverges.

Q. Where does he reside?

A. Thalia street; I don't know the exact number; I think it is Thalia—but he is familiar with them and I am not, and if you want detailed information, I won't be able to give it to you as well as he could.

Q. You have the amount of fuel expended in the mills, have you not?

A. Oh yes, certainly.

Q. You say your uncle is coming down here?

A. Yes sir. We had a very important meeting, retiring fifty bonds of the mill today at 12 o'clock, and it was absolutely necessary

for us to be there, and that is the reason I hurried on down in advance of him; he is on his way down now.

Witness withdrawn.

Mr. JOHN L. WALTERS, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your occupation, or profession?
A. I am an engineer; steam engineer, mechanical engineer.
Q. Were you, at any time, engaged in the capacity of engineer for the Maginnis cotton mills, in this city?
A. Yes sir.
Q. About what date?
A. I got employment there in 1892,—in September.
912 Q. How long did you remain?
A. I staid there it was 1893, November. I got there in 1895, in May and left 1897, in August. I was there twice.
Q. What charge did you have of the engine department there, if any?
A. I was engineer in charge.
Q. What engines were there then—what kind of engines?
A. There were two engines there, both Corliss.
Q. Were they high-pressure, or condensing engines?
A. There was one double high-pressure, and one compound.
Q. Do you remember the dimension of the piston, and length of the stroke of the high-pressure Corliss engine?
A. Yes sir, five feet.
Q. What?
A. The stroke was five feet.
Q. What was the diameter of the piston?
A. Of the high-pressure?
Q. Yes.
A. Twenty-six inches.
Q. At what speed was that engine run; how many strokes a minute—revolutions?
A. Fifty-eight revolutions.
Q. Now, is the condensing engine a compound or single condensing engine?
A. No, it is a Corliss compound.
Q. Do you remember the size of the cylinder of the high-pressure size of the engine?
A. 20 x 5 feet.
Q. What was the diameter of the low-pressure cylinder in that engine?
A. Forty-eight inches with the same stroke.
Q. Was that a jet or surface condensor?
A. A jet condensor.
913 Q. How many strokes per minute did that engine make—how many revolutions were there?

A. I don't remember any more—about the air-pump part, do you mean?

Q. I ask about the engine, itself not the air pump.

A. Sixty-eight revolutions.

Q. The air-pump engine was driven by it, by a belt?

A. No, independent steam.

Q. Independent steam?

A. Yes sir.

Q. What was the size of the steam cylinder operating that condensing engine?

A. I don't remember any more.

Q. Can you approximate it, approximately what size?

A. Well, approximately yes—it would be in the neighborhood of 12 inches.

Q. Of what?

A. Twelve inches the steam end of it.

Q. By what stroke?

A. The stroke was slightly more.

Q. Slightly more than 12?

A. 15 or 18 inches, I don't remember.

Q. Now, what vacuum did you carry on that engine when you ran it—how many pounds?

A. Well, that was variable; in the winter I could draw more vacuum than in summer.

Q. Was it ten, twelve or fourteen?

A. Oh yes, twenty or twenty-one inch vacuum.

Q. You didn't go higher than 21 inches?

A. Well, according to the load, sometimes it would be higher up running full load on.

Q. Do you remember, approximately whether that independent air pump was equipped to run faster or slower than the main engine?

A. Ran slower than an ordinary engine.

914 Q. Does that air pump relieve the condensor of the condensing water?

A. The condensing water as well as of the cooling water; relieve both at the same *imte.*

Q. Take non-condensing gasses and the water out of the condensor?

A. Yes sir.

Q. Will you tell us, if you remember, what sort of a jet that spraying in the condensor, that conde-sor has?

A. Perforated spray on one side *whether* the water enters.

Q. Was the amount of water thrown in for condensation regulated by any device within the condensor; or did you have to regulate it outside?

A. No there was a valve on the side to regulate that, but I had it always wide open on account of not having any more water than I just needed.

Q. At the time you were in that mill from what sources did you get the water for condensing?

A. Pumped it out of the artesian wells.

Q. How many wells were put down?

A. There were altogether three, but two of them only furnished water—one is nearly dead, gives but very little, don't count on that one usually; generally call it two wells, still there are three.

Q. At the time you left did they have the new air-pressure device?

A. No, the air pressure is installed since I left; I only heard of it.

Q. Now, what sort of a pump was used to take water from the wells, an ordinary suction pump?

A. I had a Davidson pump, and ordinary suction pump, steam pump.

Q. Do you remember what the steam end of it was in diameter?

A. No, I don't remember.

Q. Do you remember the size of the water plunger?

A. I do not.

Q. Was it a piston or shell pump?

915 A. No it was a piston pump.

Q. How many strokes a minute did you have to run it to get a supply for the condensing in the boilers?

A. I can't tell you that no more, I am away over two years.

Q. What becomes of the water pumped out of the condensor; does it go into the hot well?

A. Well, it is pumped out of the condensor and flows direct into the gutter.

Q. What?

A. All the waste water from the condensor flows direct into the gutters in the street.

Q. At the time you were there did they take feed-water for the boilers out of the hot well?

A. Yes sir, we used a portion of the water for the pump again.

Q. The balance goes out in the street?

A. Balance goes out in the street, yes sir,

Q. Do you know of any thirty-horse-power boiler in that mill, was there any thirty-horse-power boiler there, a separate installation of a thirty-horse-power boiler?

A. Not while I was there only five boilers there; all Babcock & Wilcox, each one 240-horse power; that is all I seen.

Q. How were those boilers fired, with coal or wood?

A. Coal.

Q. Did you have the supervision and care of the boilers too?

A. I did.

Q. Were the boilers yielding a good or small amount of steam from the fuel?

A. The boilers were kept under steam all the time during the week on account of having steam ready in case of fire; the fires were banked and kept fire all night.

Q. At the time you were in that mill, did they have an economizer, as they call it, back connection through which the steam feed-water ran?

916 A. Yes sir. There was a large Green economizer attached to them boilers.

Q. Attached when you went there?

A. Yes sir, was there already.

Q. How many hours did that mill use steam, or was it condensing steam and both engines running?

A. The running time has been while I was there, from a quarter to seven until twelve and from half past twelve to six, with the exception of Saturday they shut down at four o'clock in the afternoon.

Q. And the mill didn't run Sunday?

A. Didn't run Sundays.

Q. What was done during the half hour of the noon intermission with the steam? Was it allowed to blow out?

A. No, it was just regulated by the damp.

Q. Dampened down so that it would not blow off on the safety-valve?

A. Yes sir, the door was open and shut to keep the steam down always.

Q. At half past seven in the morning?

A. About quarter to seven.

Q. Quarter to seven, that was the time you started the engine?

A. The engine was started sooner.

Q. At what time did they begin making steam up every day?

A. There was a man hired especially to clean the fires and a colored man, who came between two and three o'clock and cleaned all the furnaces and started the fires, the engine fires, and at six o'clock the fireman came.

Q. What time did you go on duty?

A. No whistle.

Q. Sir?

A. I probably didn't understand you.

Q. At what time did you go on duty?

A. I came there about six, or shortly after six.

917 Q. What steam was carried on these boilers, what pressure of steam during working hours?

A. The average steam was 110 pounds while I was there.

Q. Did you have charge of keeping account of the fuel consumed?

A. No I didn't; that was done in the office; they weighed the coal and they kept a record of it—I did not.

Q. You have no record of the average amount of coal consumed per working day?

A. I did have it; I got it from the office; I made my calculation, but I don't remember no more what it was.

Q. Aside from the two steam-engines; large engines, the independent condensor engine and the pump used for the wells, were there any other engines in the place that were run by steam?

A. There was the boiler pump and a small pump to furnish water all through the mill for water-closets and so on—furthermore they used vapor pits in the mill for moistening the air—then they had at that time four large slashers—they used considerable steam too.

Q. Whereabouts is the surplus water let out of the building and into what streets does it flow?

A. The waste water goes into Poyfare street.

Q. Well, is the blow-off from the boilers there?

A. The boilers will blow off in the same gutter.

Q. Was there not another outlet for the waste water, there in the building?

A. There is another outlet for waste water, but it is only rain water.

Q. What is done with the exhaust steam of the non-condensing Corliss engine?

A. It goes through to the Berryman heater; and from there is brought to what is generally called the old mill for warming up the building.

Q. Well, if not condensed in that suite where does it finally exhaust into the air?

918 A. At the centre of the old mill on the inside.

Q. Now there are some months in the year, are there not, where the steam would not be required for heating—the exhaust steam would not be required for heating?

A. It escapes into the air—is wasted.

Q. Do you know what power the non-condensing engine developed; with what horse-power it was classed?

A. With full load; while I was there from 540 to 550 horse power.

Q. At what pressure of steam at the throttle?

A. What?

Q. At what throttle pressure, or piston pressure of steam?

A. Pressure direct from the boiler, which was 110 pounds, there is a few pounds less in the pipe, before it reaches the cylinder.

Q. But the rated, or developed horse-power of the condensing engine?

A. To the best of my knowledge it was 700 or a little above.

Q. Do you know what the engines were rated to develop?

A. They were rated at 1,000 horse, I have been told.

Q. That is a Milwaukee Corliss, isn't it?

A. There was an Ellis Corliss, or they call it a Reynolds Corliss, but it was built in Milwaukee by Ellis.

Q. Where was the water for condensing the steam in the condensing engine taken from, while you were there?

A. Out of the artesian wells, if I understand you right.

Q. Well, about how much water could be taken out of those wells?

A. I had never no means of measuring.

Q. Have you any idea of how much water it took to condense the steam in the jet condensors on the condensing engine; how many gallons per minute?

A. I couldn't come close to it to make any statement, for I don't know; have no means of measurement.

Q. While you were there did any accident happen to a negro boy that went swimming in the waste-water overflow?

919 Objected to as irrelevant.
Question withdrawn.

Cross-examination by Mr. FORMAN:

Q. What is a horse-power?

A. A horse-power is considered 33,000 pounds, lifted one foot in one minute.

Q. How do you ascertain the horse-power of an engine?

A. By getting first from main pressure——

Q. Sir?

A. By first ascertaining the main pressure with what they call the stroke and multiply it by the piston area, multiply it by the piston stroke in feet multiplied by 33,000.

Q. The grate surface has nothing to do with it?

A. Sir?

Q. The grate surface has nothing to do with it?

Q. You want it for the boilers?

Q. Yes.

A. I didn't understand you; I thought you wanted the horse-power of an engine.

Q. I beg your pardon, I used the wrong word; state how you arrive at the horse-power of an engine then?

A. I have just stated it.

Q. You have furnished that?

A. Yes sir.

Q. How do you arrive at the horse-power of the boiler?

A. There are a good many ways; it is generally conceded now that thirty pounds of water evaporated at 70 pounds pressure of 100 degrees feed-water, is considered the horse-power of a boiler.

Q. You ascertain the horse-power then only by actual measurement?

A. That is the only way—now there is other ways they get at the heating surface of a boiler, but this is considered all over the United States now, the only correct way.

920 Q. Different boilers have different capacity for evaporation have they not?

A. Yes sir, a great deal of difference.

Q. What?

A. There is a great deal of difference in it.

Q. How many gallons would be evaporated by a pound of coal in the Maginnis boilers?

A. Well, if I remember right now, it was eight pounds and something. I forget the calculation now—to one pound of coal.

Q. Would be evaporated by the Maginnis boilers?

A. With the help of the economizer, the water goes in above the boiling point.

Q. They didn't use the water of the water works company, while you were there?

A. There has been some used while I was there, for drinking purposes but not for th engine.

Q. For what?
A. For drinking purposes it has been used while I was there.
Q. Not for steam purposes?
A. I used it once or twice for about half an hour when I had an accident on the pump—the artesian pump—but not otherwise.
Q. Why didn't you use the river water?
A. That was the river water.
Q. Why didn't you use it on other occasions? You say you only used it once for half an hour.
A. Now understand, the wells were put down on purpose to use the river water only.
Q. You only used this river water for half an hour all the time you were there?
A. No, I say once or twice I did use it for a short time, and if I remember correctly I used a little in 1897, during the summer with the artesian water. I remember now I used a little river water, I didn't have quite enough artesian well water—that is right.

921 GEORGE N. WADSWORTH, sworn for defendant, deposes and says:

Direct examination by Mr. BECKWITH:

Q. What is your profession and occupation.
A. Engineer and machinist.
Q. Were you at any time connected with the Maginnis cotton mills, of this city, as engineer?
A. No sir.
Q. In any capacity?
A. No sir.
Q. You have never been employed there in any capacity at all?
A. His cotton mill—no sir.
Q. What mill were you employed in?
A. In his oil mill.
Q. What years were you employed there?
A. In 1870 somewheres about 1878 to 1882, along there.
Q. When was that mill erected and put in operation?
A. That is a little too much for me; I couldn't tell you that.
Q. Did you have employment there prior to 1870.
A. I think I was employed there in 1878.
Q. What?
A. 1878 to 1879–'80 and '81.
Q. What time in 1878 did you go there?
A. I cannot recollect that; those figures have all slipped my memory.
Q. Was it in the summer, or winter?
A. In the fall, I think.
Q. That was a mill for the manufacture of oil out of cotton seed?
A. Yes sir.
Q. And soap out of the refuse, was it not?
A. Yes sir.

Q. Did the mill carry any delinters or devices for reginning the cotton seed?

A. Carried nine linters and boll gin.

922 Q. What power was used to operate that mill?

A. 20-inch, high-pressure cylinder.

Q. It was steam?

A. Yes sir.

Q. What was the length of the stroke?

A. 20 x 24.

Q. What number of revolutions a minute?

A. They varied from 45 to 51, it was calculated to 51.

Q. Do you remember what pressure you carried on the boilers?

A. From 85 to 95 or 100; along there; when it went over 85 she dropped her crab claws and lost the stroke.

Q. It was a Corliss; some form of the Corliss engine?

A. Yes sir.

Q. At what horse-power was that engine rated?

A. Well, I heard them say it was rated at 125.

Q. Now, what sort of boilers did you have on it; what make of boilers?

A. When I first went there she had three high-pressure boilers; 28 feet long, 14-inch flues; the following year we had one high-pressure boiler; and I think two years after we had the Babcock & Wilcox boilers; took the others down and three them out and had the Babcock & Wilcox boilers.

Q. What fuel was used there, the hulls?—The hulls or coal?

A. Used coal in the day, and the hulls at night.

Q. What portion of the day would they use the coal?

A. Principally when they were manufacturing soap.

Q. Can you remember at what hours it would be done?

A. From seven until seven in the evening.

Q. Do you remember the size of the Babcock & Wilcox boilers?

A. I do not.

Q. There were two of the two stacks, were there not?

A. Yes sir; there was a double stack on the back and a single bar on the side.

Q. How much coal did you burn, as well as you remember,

923 during the time you were firing these boilers? Your coal ran how much an hour, or day or half a day?

A. Ten barrels —ten cart-loads about a day.

Q. Ten cart-loads a day?

A. As near as I can recollect, yes, sir; I mean in the daytime.

Q. About what would a cart-load be in the way of barrels; about how many barrels would be a cart-load?

A. They say ten barrels; I don't know, I never measured.

Q. You had to provide steam also for the soap department, didn't you?

A. Yes sir.

Q. For what was the steam used in the soap department?

A. For rectifying oil and making soap.

Q. Was the call for steam in that department large or small, when they were at work?

A, Well; it was a pretty heavy call.

Q. When they heated the tanks to saponify the oil, do you remember whether they heated them by allowing steam to go direct into the water or were they heated by coils.

A. They were heated by coils.

Q. Was there any other machinery driven by that engine, or any oth- call for steam than for the soap department; the mill propor and the delinters.

A. Had three oil presses pressing all the time; and there was a small engine upstairs.

Q. Were the oil pumps driven by belts, or driven direct by steam?

A. By belt from the main engine; a large belt from the sgafting.

Q. What was the small engine upstairs used for?

A. It was used for?

—. ——?

A. Used for soap mixers.

Q. What was the size of that engine?

A. Well, I cannot intelligently answer that; it has been so long ago I can't answer.

Q. You can give an idea, whether it was large or small?

924 A. I judge it was probably 10 x 20, wouldn't be positive.

Q. And that took direct from the boiler?

A. Yes sir.

Q. Do you remember whether that engine was run at fast or slow speed?

A. It should have a governor on it but I declare I cannot recollect.

Q. Who was it that immediately looked after that engine; which was away, I take it, from the main engine?

A. Well, I left Mr. Harrison in the soap factory to look after it.

Q. Who?

A. A gentleman named Harrison.

Q. Harrison was the man making soap?

A. Superintendent of the factory.

Q. Do you know whether he is here or not?

A. Well, I know his son is; and I am pretty positive he is—his son is keeping the Crescent soap works on Girod, close to Magazine street.

Q. Do you remember the elder Harrison's name; do you remember what his initials were?

A. I do not; this has been a long time ago.

Q. Did you remain there connected with the Maginnis oil mill, until it was sold out, or closed up?

A. No sir, I did not remain there after it was sold out.

Q. Give us here as near as you can, about the date—day of the month when you became disconnected with them; when you left there—was it in the summer or winter?

A. I cannot be positive, I think it was summer of 1883.

No cross-examination.

EDGAR B. HANDS, sworn for defendant, deposes and says:

Direct examination by Mr. BECKWITH:

Q. Are you in any way connected with, or in the service of The New Orleans Water Works Company, defendant here?

925 A. Yes sir.

Q. What is it—in what capacity?

A. Meter clerk of the water works company.

Q. How long have you been meter clerk?

A. Since November, 1892.

Q. What are your duties?

A. Everything pertaining to the meter department.

Q. Well, will you state substantially what it is that comes in the line of your duty?

A. Well reading meters; rendering bills, testing meters and overseeing the installation of meters.

Q. Is this instrument I now show you a meter?

A. Yes sir.

Q. Is it a water meter? What sort of a meter is this?

Counsel produces meter and exhibits it to the witness.

A. Hersey meter.

Q. Is it a meter in use by the consumers of the water of the water works company?

A. Yes sir.

Q. How many kinds of meters are there?

A. In use by the water works company?

Q. Yes.

A. Three.

Q. What makes, aside from this?

A. The Crown and the Empire.

Q. Do they work upon substantially the same, or different principal?

A. The same.

Q. Will, you look at the meter that I now exhibit to you, marked defendant meter "new meter"—that has never been used in registration of water?

A. Just testing.

Q. Excepting the testing?

A. Yes sir.

926 Q. The parts that are exhibited here, constitute the entire meter ready for service when connected together?

A. Yes sir.

Q. Will you explain to the court where the water enters that meter and is discharged?

A. It enters on this end of the meter and passes it up; passes up

on this end beneath the piston and rises in the cylinder; if the piston is in that position it will rise between the holes on that side.

Q. State whether I am correct in saying that in operation the piston, so called, has a rotary, or circular motion caused by the opening of the orificies in the lower part of the meter and allowing the water to impinge against one of the above?

A. Yes sir.

Q. Giving a circular movement?

A. Yes sir.

Q. Where is the registering done, in the upper or lower half of the shell of the meter?

A. You mean the dial?

Q. The registering apparatus, or device which constitutes the gear; wheels, or dials?

A. The gear is out from this spindle; this is the meter proper——

Q. The lower section?

A. Yes sir; that is the meter proper; that revolves the gearing on this crank.

Q. The circular motion of the piston in operation rotates that cranklike device on the drum of the shaft—that registering device?

A. Yes sir.

Q. Do these register in cubic feet; does this meter register in cubic feet or gallons?

A. Cubic feet.

Q. Now, in order that the water cannot pass through the register and not be recorded; what should be the contact between
927 the surfaces between the upper and lower sides of the piston—close or loose.

A. Very close, no space at all.

Q. What is the material of the rotary piston?

A. Gutta-percha.

Q. If by wear; either upon the lower surface of the meter, or the upper surface pressing down on the piston there is a space ground between the top and bottom—bottom and top plate, what would be the result as to the accuracy of the meter?

A. The meter would naturally lose in registering, on account of the water passing between the cylinder and the piston.

Q. That is—it would record more or less water than passed through?

A. Record less water than passed through the meter.

Q. I now call your attention to defendant exhibit marked "worn meter." When I remove the top will you state to the court what evidence is disclosed before removal of the upper half of wear from water action—before taking off the brass cap?

A. The evidence of wear?

Q. Yes.

A. Well, by the pistol being able to move up and down; the wear between the piston and the cylinder head; this cylinder can be raised up an eighth of an inch there.

Q. That then represents the wear along the piston joint from contact with the upper brass plate?

A. Yes sir.

Q. Well, what does that mean?

A. That means water passes through the meter and is not registered.

Q. All the water that can seep through that space——

A. Would not be registered.

Q. Would not be registered?

A. No.

Q. What internal evidence of wear do you find when you take the brass cap off?

928 A. You find the inch brush below the cylinder head; the cylinder head rises on the side of the cylinder and shows the wear between the two.

Q. So that they keep the discharge of water unregistered, clear to the depth of that water?

A. Yes sir.

Q. It is the same make of meter as the other one, is it now?

A. This a Brown.

Q. Works on the same principal?

A. Yes sir.

Q. With the use of the rotary cylinder?

A. Yes sir.

Q. Have you examined many of these meters that have been wearing at different times?

A. Yes sir, I tested all of the water works Co. meters, since I have been in their service.

Q. In the source of that investigation have you seen many defective meters—meters that have become defective by use?

A. All of them become defective in time.

Q. Do all the meters in use for the delivery of water from the water works company to consumers, record the amount in cubic feet?

A. Yes sir, they all record in cubit feet.

Defendant's counsel, offer and introduce in evidence the two meters exhibited to the witness; one being designated as Def't's "Worn Meter" and the other being disignated as "Def't's New Meter."

929 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony for defendant in above entitled and numbered cause, taken in open court this 2nd day of January, A. D. 1900, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, J. J. McLaughlin and C. C. Fredericks, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and Howard McCaleb, for defendant. Branch K. Miller, Esq., for Board of Liquidation.

WALTER H. COOK, being sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. Have you at any time been agent, or been connected with the agency for the sale of the Babcock & Wilcox boilers in this city?
A. Yes sir.
Q. How long?
A. How long ago?
Q. How long have you been such?
A. About ten years.
Q. Was your father also the agent for them here?
A. Yes sir.

930 Q. Were you in the office with your father while he had the agency?
A. Yes sir.
Q. Did you at any time during your connection with the agency for the Babcock & Wilcox boilers, sell a boiler for use in the Maginnis oil and cotton mills?
A. I didn't make the sale myself.
Q. Did your agency?
A. Sir?
Q. Did your agency make the sale?
A. Well, we participated in the sale, but the boilers were bought in New York.
Q. What, if anything, did you have to do with it—you or your father?
A. I made the estimates up.
Q. Do you know what the capacity of that boiler was, or those boilers are, rated in horse-power?
A. I don't remember exactly, but it was in the neighborhood of 2200 horse, I think.
Q. Was there any change made in the boilers during the time that followed the first installation of boilers?
A. Yes sir.
Q. About what time did that change first take place?

A. My recollection is not clear on the exact date, but I think it was something about eight years ago.

Q. Do you recollect whether it was at the time, or before, or after the time of the installation of the condensing engine there?

A. No sir, I don't.

Q. Did you sell as agent, or were you in any way connected with furnishing a boiler to the Maginiss soap and oil works?

A. I believe those boilers went into the Maginniss soap works before my connection with it.

Q. Did you ever see the boilers?

A. Yes sir.

931 Q. Do you know what they were, in size?

A. In size?

Q. Yes.

A. I think they were in the neighborhood of 480 horse—my recollection is not perfectly clear about the size, but it was in that neighborhood.

Q. How long have been familiar with Babcock & Wilcox boilers?

A. About fourteen years.

Q. What is the guaranteed, or declared capacity for steam production, per pound of coal?

A. Good steaming coal and regularly working about 8 to 9 pounds of water to a pound of coal.

Q. With Pittsburgh coal, ordinary class of Pittsburgh coal consumed as fuel in this town, what would you rate its power-making capacity?

A. It ought to give that capacity.

Q. Don't the Babcock & Wilcox manufacturers have some boilers—sell some boilers under a guaranty of a higher capacity than that?

A. Yes sir.

Q. What is their guaranteed capacity, usually, for that class of boilers that were installed in the Maginnis mills?

A. With good Pittsburgh steaming coal I would not hesitate to guarantee them at nine pounds of water to a pound of coal—that is coal containing about 14600 heat units to the pound.

Q. Do you remember the size of the boilers that were installed in the Maginnis cotton mills, as to stacks?

A. I don't catch your question.

Q. As to stacks and water tubes?

A. No sir, I do not.

Q. To your knowledge, has there been any complaint since the installation of the boilers of their not making steam?

932 A. No sir.

No cross-examination.

ROBERT S. ORKNEY, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your occupation, or profession?
A. Engineer and machinist.
Q. How long have you followed that avocation, or pursuit?
A. Since 1870.
Q. What is your present occupation?
A. Engineer for the Maginnis cotton mills.
Q. How long have you been engineer there?
A. Since June, 1897.
Q. Do you remember who preceded you?
A. John H. Walters.
Q. Of what engines have you charge?
A. We have two engines. One John H. Corliss double, 26 x 26 and we have one a compound 26 x 48 and 60 cylinder.
Q. Have you given the dimensions of both cylinders?
A. Both cylinders? Yes sir—one cylinder was 26 the low-pressure was 48—has sixty-inch stack.
Q. Those are the dimensions of the low-pressure engine—the condensing——
A. The condensing engine—yes sir. 26 x 48 x 60.
Q. You have, I take it, general charge of that steam plant?
A. Yes sir.
Q. The engine that is not a compound engine, is that a condensing—or what is known as a high-pressure exhaust engine?
A. No sir, it is what is known as a high-pressure non-condensing.
Q. What sort of valves have they, the ordinary Corliss?
A. Ordinary Corliss—yes sir.
Q. Governing cut-off?
A. Yes sir.
Q. How many revolutions per minute does the low-pressure engine make?
933 A. Sixty-eight.
Q. What number of revolutions upon the high-pressure engine?
A. It makes fifty-eight.
Q. Did you have a dynamometer-engine test of the old compound engine, so as to know what work she was called upon to do?
A. An indicator test?
Q. No, dynamometer test?
A. No sir.
Q. Did you ever notice, or do you know, with an average load on those engines at what point the condensing engine cuts off on the high-pressure?
A. Cuts off at one-fifth.
Q. Arbitrarily? Is it an arbitrary cut-off at one-fifth?
A. Yes sir.
Q. It may follow further?
A. She may follow further, yes sir.

Q. But it will at all times cut off at one-fifth?

A. At one-fifth, yes sir.

Q. Well, with the load you have to carry what is the general action of that cut-off. Does it drop your steam at the arbitrary cut-off, or follow further than the one-fifth?

A. I don't catch your question, Judge.

Q. You have a governing cut-off which will admit steam behind your piston as long as steam is needed to keep up the call for power?

A. Yes sir.

Q. What I ask you is, if in operation that governing cut-off holds the steam on the cylinder after it has passed the arbitrary one-fifth; that is, does it go more than one-fifth?

A. She don't go more than one-fifth, unless the load demands it—if the load comes heavier than that she will take more.

Q. I am asking, with the load that that engine has to carry to run forty thousand spindles, if it carried the steam past the fifth?

A. No sir.

934 Q. When does she drop the valve?

A. She drops the valve at 12 inches of the stroke.

Q. Always?

A. Well, pretty near it. The load is very steady; there is very little variation in the load.

Q. What I am trying to get at is, whether the one-fifth is enough steam to keep up your speed without the valve being held open longer?

A. Yes sir, that is enough steam to carry.

Q. What becomes of the exhaust steam in the high-pressure non-condensing engine?

A. Non-condensing engine?

Q. Yes.

A. It is exhausted into the Berryman heater, and then out into the atmosphere.

Q. Where does it go to then?

A. Into the atmosphere.

Q. Is there any of it used in the mill?

A. Sometimes in the winter, we use it for heating.

Q. A certain amount of steam is needed in the mill, isn't it, to keep the proper dampness for the looms—where does it come from?

A. That comes from the boilers, that is live steam.

Q. None of the exhaust is used for that?

A. No sir.

Q. What sort of an air pump have you got on your condensing engine?

A. Corliss.

Q. Independent?

A. Yes sir.

Q. What is the size of that pump, on the steam end?

A. The steam end is 12 x 12.

Q. What pressure do you carry there—piston pressure?

A. We get about 105.

Q. How many strokes to the minute?

935 A. Sixty-eight.

Q. Sixty-eight revolutions?

A. Sixty-eight revolutions.

Q. Where is your hot well?

A. The hot well is alongside of the air pump.

Q. Jet condensor or surface condensor?

A. Jet.

Q. What vacuum did you carry?

A. We average 24.

Q. Where is the supply obtained from, for condensing water?

A. The water supply?

Q. Yes.

A. We have three artesian wells.

Q. How long have you had those wells?

A. Since 1890, I think, I am not sure. 1890—1890, I think.

Q. What is the water capacity of those wells?

A. I must refer to my book, I don't know that, I have the book—well, I make the capacity of one, I remember is 360, the other is three twenty, and the other one about 140 or 150, working singly by themselves.

Q. When the wells were first put down how was the water taken from them by direct engine pump?

A. By a Davis pump, yes sir.

Q. They gave out after a while, didn't they? That is, the water fell too low for suction?

A. Yes sir, I believe the pump wouldn't make it.

Q. What plan was resorted to then to get water?

A. They put in a compressor; air compressor.

Q. Do you remember about when that compressor was put in?

A. Yes sir, last April, I think, a year.

Q. What size steam cylinder did you have on your pump, when you pumped direct?

A. The water pump?

Q. Yes, the water pump.

936 A. Two and a half inch, I believe, two and a half inch steam pipe.

Q. What do you mean two and a half — steam?

A. Did you ask the size of the steam pump?

Q. The size of the steam end of the pump?

A. Oh the steam end of the pump was six—12 I think it was.

Q. What?

A. I think it was 12 x 12.

Q. How many strokes to the minute will that pump require to supply your condensor and boilers?

A. Well, I don't know, Judge, we never figured on that; we just run it according to the water we wanted to pump up.

Q. Well now, since you have got this air compressor device, what size engine do you use to run that?

A. I think the steam cylinder the high pressure is ten, and the other is—I forget what the size of those are—I have not brought them with me; it is a compound compressor.

Q. What air pressure do you maintain?

A. *Well, the average air pressure is about 75 pounds.*

Q. Do you remember what size Babcock & Wilcox boilers you have?

A. We got five 240-horse power.

Q. Where do you take the water for the boilers from—where have you taken water for the boilers from since you had the condensing engine in there?

A. We take it from the hot well of the air pump.

Q. Now, how many gallons per minute does it require on your condensing engine to condense the steam to make it 24 vacuum?

A. About 350 gallons.

Q. At what temperature is the water in the well, using that kind of water?

A. The temperature of the discharge is 136.

Q. Since you have been there. has there been any material increase or decrease, in the amount of water required to condense the steam?

A. Yes sir.

Q. Well, what has it been, an increase or decrease?

937 A. It has decreased from 280 gallons.

Q. That is it requires 280 gallons more?

A. No, it has increased from 280 to 350.

Q. Is that on account of the condition of the condensor, or jets, or temperature of the water?

A. No, at that time the Berryman heater was out of order and we had to keep the water in the hot well hotter, so as to overcome the loss from the Berryman heater; that was with only 19 inches of vacuum—that reduced the vacuum.

Q. At what time do you commence the use of steam each day in the Maginnis cotton mill?

A. Well, the fireman comes to raise steam at five o'clock—a little after five.

Q. When do you start the engine?

A. The engine starts to roll over at a quarter after six.

Q. When the engine starts to roll over the mill machinery is all in motion, isn't it?

A. No sir; that is only to warm the engine, the mill starts at 6.30.

Q. At what time in the day do you shut down?

A. Shut down at 12 o'clock for half an hour.

Q. Commence at half past twelve again.

A. A half past twelve.

Q. How long do you run in the afternoon; what hour do you close?

A. 6.15.

Q. Were you the engineer there at the time the mill took water from the city water works?

A. Yes sir.
Q. Was there not a varying state of temperature in the river water through the year?
A. Yes sir.
Q. Do you remember between what thermometer points it varied?
A. No sir, I don't remember.
Q. Well, it was as high as 90 sometimes in the summer?
938 A. The river water.
Q. Yes.
A. No sir, I don't think—it was higher than ninety.
Q. Do you remember—do you know what it was?
A. Yes, I have tested it.
Q. How high a temperature did you find in the highest summer temperature of the water?
A. I don't remember.
Q. It materially affected the amount of water annually used to condense, didn't it?
A. Yes sir.
Q. What is the temperature of the water you get from your well?
A. 74 degrees Fa-renheit.
Q. How much of the time during the year is the river water as cool as that?
A. That I don't remember.
Q. You certainly would require much more water to condense your steam when the Mississippi river had its summer temperature, than you would when it had its winter temperature—there is a difference?
A. Yes sir; we mix the water though; we take part of the water from the wells and part from the city supply.
Q. You didn't mix before you had the wells?
A. No sir, not before we had the wells.
Q. Where is the waste water discharged?
A. Discharged into Poyfare street.
Q. In a wooden flume?
A. Yes sir.
Q. How long has it been discharged there?
A. Since the mill was built—since the new mill was built.
Q. That is since?
A. That is since the condensing engine was operating.
Q. Is there any water discharged in any other part of the building?
939 A. Any water that is gathered around there is all discharged into *into* that trough—I say all the water that is gathered around there discharges into the trough.
Q. You blow off in it?
A. Blow off in it, yes, sir.
Q. Isn't there another stream of water flowing from that mill on the other side?
A. No sir, only the sanitary water; that is water flowing from the hot well; that is water from the discharge does run in pi-es to the other end of the building somewhere.

Q. Mill run on Sunday?
A. No sir.
Q. What days in the year besides Sundays, has the mill been shut down?
A. On holidays.
Q. Which would be Christmas, New Year's, and Mardi Gras?
A. Yes sir.
Q. July 4th?
A. Yes sir.
Q. Who has charge of the coal consumption in the engine-room; is it checked or weighed in, or weighed out?
A. It is weighed at the gate as it comes in.
Q. Where is it stored?
A. We get our coal from the Galloway Coal Company.
Q. Where do you store the supply?
A. Just lay it in front of the boilers.
Q. Near the engine-room?
A. Right in front of the fire doors.
Q. Is the coal weighed in at the furnace?
A. No sir, it is weighed at the door; at the gate.
Q. Who has charge of the receipt and verification of the coal there?
A. The gate-keeper.
Q. Are you required to make any report of the daily consumption of coal?
940 A. No, sir.
Q. Have you any idea what it is?
A. Well, I have the recollection now that I averaged it at 42,000 pounds a day. Some months will be more than others, according to the time of the year; in the winter time we use more on account of heating the building.
Q. How much more?
A. Well, it might round up ten, fifteen or twenty barrels a day more.
Q. Is the mill heated by live steam or by exhaust steam?
A. There is one mill heated by live and the other by exhaust.
Q. Where is the steam obtained from that is used in the process of manufacture—bleaching and making the cloth?
A. That comes from the boilers.
Q. What device have they there, if any, for use in the mill?
A. A steam pipe leads from the main line——
Q. What?
A. An ordinary steam pipe that leads from the main line to the slashers.
Q. What is the size of that pipe?
A. That is a four-inch pipe.
Q. What is the size of the throttle.
A. Four-inch valve—come four-inch valve.
Q. Do those slashers consume that amount of steam?
A. They just open it according to what they want.

Q. About how much opening a——

A. I couldn't tell you that, that is out of my department altogether.

Q. Then you really don't know whether it is wide open or not?

A. No sir, the valve now down on the boilers is wide open, but I don't know how the other one is.

Q. Throttled at the end as they require?

A. Yes sir.

941 Q. Does that call on you for any considerable amount of steam?

A. No, not more than we can make easily.

Q. I know. But what difference would there be if that pipe was entirely cut off; was not carrying steam away from your boiler at all—in fuel?

A. It would make a little difference; we don't use it all day; it is only when they are taking a strike, or heating a strike.

Q. What was the size of the pump that you had attached to the service pipe; at the time you took the water from the city?

A. The size of the well pump, you mean?

Q. Yes, the size of the pump that you used on the main;—or the service pipe that led to the water-works main, when you took water from the main.

A. Well, I didn't pump it through that; that flowed to the air pump with the city pressure.

Q. The pressure was high enough to carry it?

A. Yes sir, to flow into the pump.

Q. You took your condensing water then, direct from the water-works pressure?

A. Yes sir.

Q. What means had you then of knowing how much, or how little, water you were running through your condensor?

A. Had a water meter.

Q. What?

A There was the water meter there.

Q. What kind of a meter?

A. Ordinary water-works meter.

Q. There are so many ordinary ones.

A. I couldn't describe it to you Judge, I never saw inside of it; it was cased round.

Q. When was it installed?

A. I don't know, before my time.

942 Q. Where is it installed?

A. At the gate, at the entrance of the mill.

Q. You think it was there in 1889?

A. It was put in there when the mill was built, I think, I am not sure though.

Q. Have you any idea now whether it was a piston meter; a compound meter, Hersey meter, or what?

A. It was a cubic foot—I think.

Q. Yes, but are you certain that that was in in 1889?

A. I can't swear to that.

Q. Wasn't that meter installed after the wells were put down?

A. The wells were put down when I was away; I wasn't there when the wells were put down.

Q. When did you first become acquainted with that machinery and steam plant—what date?

A. First time I became acquainted with it?

Q. Yes.

A. I was there twice; I was there in 1877 and last time 1887 to the beginning of 1890.

Q. But the wells weren't open then, were they?

A. No sir.

Q. Now, the meter you say measured the amount of condensing water you took. Didn't I understand you to say that you mixed the well water with the river water?

A. Yes sir.

Q. Well then, your meter, if it recorded anything, would only show how much river water you took, and would not show how much you ran through your condensor.

A. Yes sir; we worked the pump then—we worked the pump.

Q. What I want you to tell us, if you can, is how you knew the amount of water that you used in your condensor before you used well water, and when you were condensing entirely with water from the city water works—how did you know it?

943 A. Well, tested it by the meter.

Q. And you still insist upon it that you had a meter there before the wells——

A. Well, the wells were built when I was there before, we were taking part of the river water and part of the well water.

Q. Then you never were there when they condensed entirely with river water?

A. When the mill first started we were using nothing but river water; it was in 1888.

Q. What I am trying to get at is, during the time you used nothing but river water and allowed it to flow at the water-works pressure through your condensor, how did you know, or did you know, how much water you used in condensing?

A. I don't remember.

Q. Do you remember what the temperature of the hot well was, at that time?

A. No sir.

Q. When you were first in that cotton mill were you chief engineer, or in a subordinate capacity?

A. I was engineer.

Q. That was the first period of your employment?

A. Yes sir.

Q. Who was employed during that period and the period when you renewed your connection with it.

A. There has been several engineers there since.

Q. Who were there?

A. Mr. Walters, Mr. Holland—I don't remember who the others were.

Q. In stating the capacity of those wells to produce water, when you gave figures, did you mean per minute?

A. Flow of the wells?

Q. Yes.

A. Yes sir.

Q. That is your figures were given of the flow per minute?

A. Yes sir, by test.

944 Cross-examination by Mr. FORMAN:

Q. They are not uniform are they?

A. I can force the water as I want it; I just regulate the air compressor.

Q. Did you ever test the meter as to whether it was accurate, or not.

A. No sir.

PAUL DEVERGES, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. You are the book-keeper of the Maginnis cotton mills, are you not?

A. Yes sir.

Q. Will you look at the paper handed you marked "Defendant, Deverges 1," and state whether you made that examination of the books of the Maginnis Cotton Mills Co.?

A. Yes sir, it is a copy from the books.

Q. Does it contain all the fuel account for the years covered by the statement?

A. Yes sir, it does.

Q. There are no mistakes?

A. No mistakes.

Q. You checked it over to see that there were none?

A. Yes sir.

Q. Well, now, is it not true that your books not only show the number of barrels, but show the actual weight of coal, or amount?

A. Yes sir.

Q. Why is it not stated?

A. Well, because a barrel is recognized all over as 180 pounds; and in your letter you asked me to give the pounds or the number of barrels.

945 Q. No, I said pounds and number of barrels; now your books, from which you made that statement, contain, I suppose, the actual number of pounds?

A. Yes sir.

Q. Without the interposition of the conjectural barrel?

A. Yes sir; I enter only the barrels though, I figure, at the end of the month—I figure the number of barrels equivalent to the

pounds and then put the barrels in my books; I don't enter the pounds, though I can figure the pounds by multiplying by 180 at any time; that is easy to do.

Q. Does every barrel there then by actual weight, represent 180 pounds of coal.

A. Yes sir, figuring the number of barrels by dividing the number of pounds by 180.

Q. When you had the number of pounds, why didn't you give us the statement of the pounds and barrels?

A. Because I didn't know you wanted it, I can show you your letter.

Q. I asked for a four-column statement. Now, during the period covered by that statement, you are sure that you extracted from your books every item covering the purchase of coal for that period?

A. Yes sir.

Q. Was there any other fuel used?

A. No.

Q. No other fuel used?

A. No sir.

Q. Have you compared the typewritten statement with your own statement?

A. No sir, I never saw the typewritten statement.

Q. There is no certainty by actual comparison whether the typewritten statement of account is the same as yours?

A. No sir, I tell you I never saw the typewritten statement.

946 Counsel for defendant offers the manuscript statement identified by the witness, marked Defendant Deverges 1 in evidence.

Q. Will you state now what the figures are for the years——

A. 1898, 75,499 pounds, 1889, 37,677 pounds, 1888, 38,908 pounds; 1889, 56,588 pounds, and 1890 63,116½ pounds.

Q. We would ask you now, Mr. Deverges, to compare your statement with the typewritten statement, and see whether they are correct.

A. Compare the number of barrels and the amounts also?

Q. The amounts.

A. Do you want to compare totals or every item.

Q. Yes, I want every item, if you can.

A. It will take me some time to do that.

At this point recess is taken and upon witness being recalled after recess he is asked:—

Q. Have you made comparison between the typewritten and the other statement?

A. Yes sir, I made comparison and found only one discrepancy, instead of 2956 it would be 2950; a difference of six.

Q. You have corrected it?

A. Yes sir, I have corrected it.

Q. Then, as corrected, the typewritten statement is in accord with your own statement taken by you?
A. Yes sir.

Defendant's counsel again offer, introduce and ask to be filed in evidence document marked Defendant Deverges 1, on behalf of defendant.

947 M. J. DONELLAN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. You have been engaged in some capacity in the Picayune office for a long time, have you not?
A. Yes sir.
Q. How long?
A. Well, this last time, about eighteen years.
Q. At any other period before that time?
A. Oh yes, before the war—before the civil war.
Q. In what capacity have you served there?
A. First in the press-room.
Q. Up to what date.
A. About fifteen years ago I was in the stereotyping department.
Q. Then you are foreman of that department?
A. Yes sir.
Q. How often has the Picayune changed its presses since you have been there?
A. Well, since a boy we had three different presses; we had a rotary and two improved presses.
Q. When did they get the cylinder press?
A. They got a cylinder press before my time; it was in the fifties.
Q. When did they change?
A. Changed some time in the 70's; I couldn't exactly say, but in the 70's, close on between 1865 and 1870, I guess.
Q. Have they changed since?
A. Yes sir.
Q. When did they make the last change?
A. The last change, to my recollection, was about six years ago, six or seven. I think, I ain't positive.
Q. Now, the one they had last preceding the one they have got now, what style press was it; how many cylinders, and how many impressions per hour?
A. Before they got this improved press?
948 Q. Before they got the present one?
A. They had a four-cylinder before we had the two rotarys; we had a small rotary and then a large one; we have got two improved presses since we had the rotary.
Q. Do I understand you to say that you had some time up to six years ago the four cylinder presses?
A. Not six years.
Q. And you changed it?

A. We have changed say about 12 years ago; we had the rotary, might be a little over to best of my recollection of it. I don't remember exactly the date, but it is inside of 12 years.

Q. This present press is a much larger press, isn't it?

A. Yes sir.

Q. Does it print both sides of the paper at once?

A. Yes sir.

Q. And cut and fold?

A. Yes sir.

Q. Are you using the same engine to run this press that you did to run the press preceding this one?

A. I couldn't answer that; I don't know what power it takes to run it.

Q. Then you changed engines?

A. Yes sir, we changed engines.

Q. For a larger or a smaller one?

A. The engine don't look to me to be any bigger than the other one; it don't look as big to me; it might have more power.

Q. The presses run by steam?

A. Yes sir.

Q. What hour does the paper go to press?

A. We generally go to press about four o'clock in the morning—a little after four.

Q. When is the edition run out?

A. The whole of the paper goes to press at the same time—between four and five; sometimes between half past four and four.

949 Q. Who is the engineer there?

A. Mr. Haskell.

Q. Is steam used for any other purpose besides that engine which you use in your department?

A. No sir, we don't we got belts running from the engine-room downstairs up to our place where we have our shafting to do our work.

Q. That shafting was installed after you changed this last press?

A. Yes sir.

No cross-examination.

IRA HASKELL, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. Are you engineer at the Picayune establishment?

A. Yes sir.

Q. How long have you been there?

A. I went there the latter part of March, 1892.

Q. Were you there before the last six-cylinder press was installed?

A. The foundations were down; they were putting it in when I went there.

Q. Wasn't there a change of engine, or motive power, about that time?

A. No sir; just previous to my going there, I suppose four weeks maybe not more than two weeks.

Q. Did you ever see the old engine?

A. Yes sir.

Q. What kind of an engine was it?

A. It was one of those old-fashioned uprights; I don't know the name of the old engine; I helped take it down myself afterwards, that is one of them; they had two there previous.

Q. About what was the size of cylinder and length of stroke?

A. Of the old engine?

Q. Yes.

A. I don't recollect. I think it was somewhere around 8 x 12—I am not sure—it was an old-time—old slow-speed one; I never saw it run.

950 Q. What engine did they install in the place of it?

A. New York Safety, 30-horse power. New York Safety upright.

Q. Condensing, or non-condensing.

A. No sir; plain slide-valve Pickering governor.

Q. What sort of boiler have they?

A. Fifty-horse marine upright.

Q. What steam power do you use at the throttle, or on the piston?

A. Well, in the morning, when we have use for most of the power we usually carry 80 pounds, 75 to 80.

Q. Would that be your piston pressure, or boiler pressure?

A. Yes sir, boiler pressure.

Q. How much does it fall at the piston, do you know?

A. Well, I don't suppose more than a few points; not over two points, maybe not that much.

Q. Will you give us the internal size of the engine—size of the piston?

A. 9 x 9.

Q. How many revolutions on the minute?

A. Runs anywhere from 225 to 250; we don't run all the time exactly the same; in the morning we speed up if we are late and run pretty fast; if we ain't—we slow down.

Q. What other use is made of that engine than running the presses?

A. Runs ster-otype machinery.

Q. For cutting plates?

A. Cutting plates, molding and so on.

Q. Any use for steam there in the building?

A. We use the exhaust steam, from the steam tables, we use that to heat in the winter time—that is the exhaust steam. The live steam, we don't have any use for the live steam, only for the steam tables.

Q. How do you heat that table at the time when you don't have steam up?

A. They heat it with stoves.

951 Q. What time do you go up in the course of the day;—what time do you go up to take off the edition?

A. I go there at night 11 or 12 o'clock at night, six nights out of the week; then Saturday night I go on at eight o'clock.

Q. When is the stereotyping department in operation; in the daytime or night-time?

A. Night-time.

Q. How early in the night do they begin to take power at the stereotyping department?

A. Well except on weekly nights, which has been once a week until very recently,—now they are running a semi-weekly, they commence to take power at half past two or three o'clock; but when there is a big paper they commence a little earlier; I have the engine running and usually start on about one or half past one.

Q. In night or daytime?

A. Night-time; I close it down at six o'clock in the morning, sometimes at seven.

No cross-examination.

L. H. GARDINER, sworn for defendant, deposes and says:—

Direct examination by Judge BECKWITH:

Q. How long have you been superintendent of the New Orleans Water Works Company?

A. I was secretary and treasurer for two years, July 1892 until September 1894, since that time I have been superintendent of the coompany.

Q. Do you mean 1882 or 1892?

A. 1882 to 1884.

Q. What position did you occupy at the time that the Maginnis cotton mills were taking water from the water works company, for their general steam supply?

A. Well from 1882 to 1884, as I stated before, I was secretary and treasurer, subsequent to that time, superintendent.

952 Q. Do you remember any controversy between Mr. Maginnis or the mill company and the water works company, about water?

A. There have been several such controversies, to which do you refer?

Q. I refer to the one relating to the cotton mills?

A. 1889?

Q. Yes.

A. Yes sir, I remember it.

Q. Can you tell us what service—the size of service he took, and from what mains at that time?

A. Up to about the year 1889 their service was from a four-inch pipe on Poyfare street; they made some changes in the mill, requiring, they said, a large quantity of water and at their request an

eight-inch service was given them from the main of the water works company on Calliope street.

Q. What is the size of the main there?

A. As near as I remember it is 16.

Q. Was the Poyfare connection discontinued then, or did both exist.

A. Both existed up to a given time——

By Mr. FORMAN:

Q. What do you mean by 16, 16-inch interior diameter?

A. Yes sir.

Q. You just said sixteen and I wanted to make it clear?

A. Yes sir. Interior diameter it was.

By Judge BECKWITH:

Q. In any of the controversies you had about that time with the Maginnis mills, about the amount of water used, did you examine particularly the volume of water that was flowing away from the mill in the waste conduit?

A. I did.

Q. Have you seen it lately again?

A. Yes sir, I have seen it, quite a number of times since.

Q. How late?

A. I saw it last on—well during the past two weeks.

Q. How does the volume of water as it was flowing in that conduit or gutter in 1889, compare with the flow that is operating there now?

953 Objected to by plaintiff's counsel on the ground that this defendant has persistently excluded all testimony as to anything that occurred after the bringing of this suit and unless it be to open the door to an investigation of every fact connected with this matter since the bringing of this suit, plaintiff's counsel insist on the objection.

Counsel for defendant state they wish to show that there has been no material alteration in the flow and to show what it is now by weir measurement. Wishes to show that there has been no change since 1889 and to show by measurement it now is doing the same service—this for the purpose of comparison.

By the COURT: I have excluded proof of all matter subsequent to the institution of the action, and ought to maintain the objection, but upon reflection I will overrule it.

Q. How does the volume of water as it was flowing in that gutter or conduit, in 1889, compare with the flow that is operating there now?

A. As far as I can judge by eye, it is the same.

Q. What form of conduit is it?

A. Open gutter—open street gutter.

Q. Flanked or unflanked, is it boxed?

A. I don't know that I am able to answer that question accurately.

Q. Your attention was called to the flow, at that time?
A. Yes sir.
Q. Some effort made to estimate it at that time?
A. There was.

No cross-examination.

GEORGE G. EARL, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your profession, or occupation?
A. Civil engineer, sir.
Q. How long have you been engaged in that profession?
954 A. Ever since graduating from college in 1884.
Q. Which college did you graduate from?
A. Lafayette college, eastern Pennsylvania.
Q. What is the curriculum there, does it embody engineering?
A. Yes sir; they have a regular engineering course, giving a degree of civil engineer.
Q. At what time did you graduate?
A. 1884.
Q. Have you been engaged, since that time, in engineering?
A. Yes sir, continuously.
Q. Connected with water works, or kindred matters—hydraulics?
A. In hydraulic engineering, almost entirely, yes sir.
Q. Will you state whether you have, at any time recently made a weir measurement of the water flowing in the waste gutter or discharge gutter from the Maginnis cotton mills?
A. Yes, sir, on December 12th, at 10 a. m. I went out there and examined the conditions and made a gauge of the flow at the first point where all of the flow from the mill goes into one gutter; it comes out in some five or six different outlets, coming through several gutters and finally comes together at the corner of Magazine and Calli-pe streets.
Q. That was December of last year?
A. Yes sir, December, 1899.
Q. What course did you take to measure?
A. What's that?
Q. What course did you take to get the measurement?
A. I selected a spot where the flow was at a uniform velocity, a uniform area and I took a balance tube—that is a test-tube stopped at the top and weighted, so as to extend down the full depth of the current, really it went down a depth of over five inches in the gutter that is about 6 and a half inches deep, and I timed that float in passing through a distance of 30 feet, some five or six times; took the means of those times, which did not vary more than 5%
955 as the mean velocity of the gutter, and from that determined the flow to result in 475 per minute, or at the rate of 285,000 gallons per—in one hour.
Q. Was this method of measurement the method adopted in hy-

draulic engineering to give the approximate flow of a flowing current?

A. Yes sir.

Q. Are you familiar with the computations connected with the volume discharged in the conveying capacity of water mains?

A. Yes sir.

Q. Did you make any calculation as to the capacity of the 8-inch service at the Maginnis mill to deliver water?

A. Not of the present eight-inch service—no sir—I made the computation of the four-inch from Poyfare street.

Q. You made no computation as to the capacity of the eight-inch?

A. No sir, I have not; that would very much exceed the capacity of the four, of course; I didn't know that you wanted the capacity of the eight-inch.

Q. I wanted the capacity of all the deliveries; what did you make the capacity of the four-inch?

A. The four-inch pipe tested on a head of 60 feet existing in 1889 and '90, according to the water works company reports, and taking its water from a six-inch main on Poyfare street five hundred feet from Magazine, estimating the four-inch pipe to be 200 feet long—(you have to make some assumption there and that is estimating it certainly longer than it is—) would deliver 550 gallons per minute into a well at the ground level under the free flow from the head furnished by the water works company.

Q. Assuming the delivery to be eight inches from the 16-inch main, to the walls of the mill, and six inches from there to the pump connected with the 16-inch main, with substantially the same length between the main and the extreme end of the service delivery in the building, what ratio, with the same head, would exist between the capacity of the 4-inch to deliver and the 8-inch with con-
956 stricted 6-inch end?

A. I couldn't answer that in that form; if you choose to leave that question I will calculate the matter and give you the answer to it. The delivering capacity, of course, is tremendously larger, because the frictional loss to the 8-inch pipe is nothing, in the 16-inch main—or almost nothing and the capacity of the eight-inch itself is very, very much larger. With a compound pipe such as the 8 and 6 I couldn't possibly give you an proportion.

Q. You can estimate it?

A. I can estimate it, yes sir; all I want is to get lengths of any given size pipe and the head at the start and it is a perfectly simple matter to determine the resulting flow to consume that head, or the resulting flow at any height.

Q. Will you please make that calculation?

A. All right sir, I will.

Cross-examination by Mr. FORMAN:

Q. The further water goes from the head, especially if the pipe diminishes, the friction increases, does it not?

A. There is a frictional loss, due to the passage of water in pipes—that friction varies with the square of the velocity of the water in motion in the pipe.

Q. Assuming that your head was uniform at 60 feet at the water works what would be the frictional loss at a distance of three miles?

A. Well, you have got to take quantity into consideration; take a large main with a very small quantity of water going in it and the frictional loss is practically nothing; as the quantity increases that increase is directly in proportion with the velocity and the friction increases, it increases as the square of the velocity.

Q. Suppose your pipe diminishes down to three inches, that would increase the frictional loss, would it not?

A. In that it increases the velocity yes sir.

Q. Sir?

A. Yes, in the same proportion as it increases the velocity of the water.

957 Q. Of course the degree of pressure would depend upon the height of the co-umn?

A. Yes sir, certainly, they are synonomous, the two terms..

Q. Your pressure is maintained by the pump, is it not?

A. Yes sir.

Q. And when you are maintaining the pressure at the pump, you maintain the column in the stand-pipe to a certain height?

A. Yes sir.

Q. But you get exactly the same pressure that is measured by the height in the stand-pipe, is that not so?

A. Yes sir, that is exactly so.

Q. Now the point that I want information upon—you are introduced here as an expert in hydraulic engineering—is, assuming that you start with a certain volume of water, say thirty-inch or thirty-six-inch pipe at the main, but it diminishes by the time it gets three miles away down to three inches, how would you get at the frictional loss, or the diminishment of pressure, in consequence thereof?

A. The only way you can get at it is, by knowing, or assuming, the quantity of water that is travelling in every individual length of that pipe. For instance in designing a water-works system that starts at 30-inch, runs to 24, then to 20 and to 18 and to 16 and to ten, and then down to two, if you choose, you assume that you want to carry to the end of the 30-inch, ten million gallons; you want to carry to the end of the 24-inch, say eight million gallons; you want to carry to the end of the 18-inch say 6 million gallons, and so on, and in that way you can compute the frictional loss due to the volume of water in that size pipe.

Q. Then, at a distance of three or four miles, with a diminishing pipe, the pressure would not be the same?

A. No sir, not with the volume of water flowing.
Q. Are you acquainted with Water Supply Engineering by Folwell?
958 A. By what?
Q. Folwell's water-supply engineering?
A. No sir, I don't know that I know of the work.
Q. Published by John Wagnall & Sons?
A. No sir, I have not it.
Q. Do you know the work by Allen Hazen on Filtration of Public Water Supply?
A. I have that, yes sir.
Q. Is that a standard work, and authority?
A. It is a very good book, yes sir.
Q. Are you acquainted with "The Water Supply of the City of New York from 1658 to 1895" by Wegman?
A. No sir, I haven't that.
Q. You don't know anything about that?
A. No sir, I have never seen the book, I don't think.
Q. Don't know it by reputation?
A. I have seen advertisements of it.
Q. Sir?
A. I have seen it quoted in advertisements; that is all.

D. V. DYER, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your business, or occupation, Mr. Dyer?
A. I am a mechanical engineer.
Q. How long have you been so?
A. About twelve years, most of the time, barring say three or four years that I was employed as a civil engineer, perhaps.
Q. Will you please tell us how you acquired your profession, and where?
A. The first knowledge I learned of mechanics was with my father, who was for several years, master mechanic in the Charleston navy yard Boston; I then learned my trade as a steam-fitter with the Walworth Manufacturing Company; from there I went to the Ins-itute of Technology in Boston, as special student, taking
959 afterwards two years' lectures at Lawrence scientific school in Harvard, since which time I have been employed, as I stated before, both as civil and mechanical engineer.
Q. You believe yourself versed in steam engineering and the mathematics connected with it?
A. I think so.
Q. Have you ever seen the steam plant in the Maginnis cotton mills in this city?
A. Yes sir.
Q. Will you state what you found?
A. In exact amounts you want it?
Q. Yes.

A. Divided up as to boilers, plant, engines, etc.?
Q. Yes.

(Witness produces document.)

By Mr. FORMAN:

Q. What is that you have in your hand?
A. Some notes, made by myself at the Maginnis plant.
Q. When?
A. Somewhere around December 14th, I think, 12th or 14th.
Q. 12th or 14th of December, 1899?
A. Yes sir.

Counsel for plaintiff objects to any evidence as to condition of affairs existing on the 12th or 14th of December, 1899, as irrelevant and not pertinent to any issue introduced in this cause; that the period referred to is long after the filing of this suit.

Counsel for defendant, states, that it is in proof, and not disputed, that the two engines that are at the mill and the same plant that is there, is the plant doing the same service, driving forty thousand spindles, as existing at the time the dispute arose, and what defendant's counsel propose to show is, in an engineering way, exactly what it is and has been ever since it was installed.
960 Its demands for steam, and the demand for water to run that plant.

By the COURT: I overrule the objection.

A. As shown by personal inspection, and some measurements, and some inquiries, I found the boiler plant of a relative horse-power of about 1200, considerably increased by the use of a Green economizer and a Cross compound Corliss condensing engine and a double simple Corliss condensing engine, duplex acting air compressor, crank and fly wheel type, Berryman heater, necessary feed-pumps, etc.

By Judge BECKWITH:

Q. At what speed were the boilers said to run?
A. Do you want details of the engine?
Q. Yes, I want details, what do you know about it?
A. What I took to be the main engine is an E. P. Allis & Co. horizontal Cross compound Corliss condensing engine, known as the Reynolds type; the diameter of the cylinders, high pressure is 26 inches; low pressure 48 inches. Length of stroke 60 inches; number of revolutions, as near as I could obtain it, 60. Steam pressure on the boilers, when I was there about 109 or 110 pounds of steam. Judging from past experience I figured about 105 pounds on the piston; the engine being quite a distance from the boilers, pipe line being long and considerable vent. I judged that the engines were cutting off at a quarter, probably the high pressure cutting off less than a quarter and the low a trifle more than a quarter, balancing up that way. The vacuum as shown by the gauge there

was 24 inches. Figured on that basis that engine was probably exerting not less than 735-horse power indicated, possibly 770, in consequence of the check of the vacuum, etc., would make that possible difference. There was connected with that engine a condensor of the usual Allis type, known as an independent jet condensor, it is independent; in fact it has its own steam cylinder, not connected with the main engine in any way for its driving power. Making a study of the probable steam consumption of
961 *of* that engine, as based on the best practice now existing in the country, I figured she was performing a duty of about a horse-power per hour, or perhaps a little less than 20 pounds of water. What I actually figured was 19.7 pounds of water per horse-power, per hour. That would make a total in ten hours, which I understand the engines run—ten hours a day, of 144,795 pounds, or in gallons it would be 17,400. I figured the amount of condensing water probably used by this engine; that is with the very best of practice, the very best of conditions, giving the engine a great deal the best of any doubt that might come up in my mind—figured all the diameters as near as I could obtain them of the supply, and of the condensing water, condensed steam and water coming from the air pump—the supply being, as near as I could find it, 65 or 66 degrees of temperature at that time and after coming from the pump and running out in the gutter on Poyfare street about 135 Farhenheit—figured on that basis, the amount of water used under those conditions, must approximate about 198,000 gallons. I wish to say further and note the fact, that would be giving the very best practice obtainable in the country.

Q. In what time?

A. In ten hours; now that measurement of condensing water I took comparatively and approximately by the gutter on Poyfare St. and the delivery from the hot well and satisfied my own mind that that amount of 198,000 gallons was not very, very low, but considerably less than the actual amount used by the engine—as near as I could judge—I couldn't find any other water going into the hot well, and I think, as I stated before, that it is considerably less than what the engine is actually using. The other engine is what is technically known as a double simple Corliss non-condensing; quite an old engine; it is one of the original George H. Corliss type—diameter of cylinder 26-inch; length of stroke 60, number of revolutions
962 when I was there,—was fifty eight. This engine was situated considerably nearer to boiler plant, then in the steam line had the same pressure at throttle. I figured it to be probably a little close to the boiler pressure say 108 pounds; it was not easy to tell from this engine the kind of cut-off or where the cut-off was placed, but I judged it to be fairly well loaded from the way she was acting, and adopted the quarter cut-off—fifteen inches. In other words figured on this basis that indicated horse-power of probably 496 to 500 horse power. This engine was quite an old one; is simple; is non-condensing, consequently using considerable steam, and if operated on the very best of conditions would probably consume

24 pounds of feed-water per horse-power, per hour, or the total feed-water in ten hours transmitted in gallons, of 14,400. In closing I would sat that I think the boilers could be pushed—with the splendid economizer there erected—could be pushed very close to 1500-horse power. That is about all the data I have on the engines; unless you wish to know something about the actual operation of the run there, for instance.

Q. How did you measure the water in the flowing gutters?

A. By test tubes, which were weighted in order that they might stand almost perpendicular in the current and to within a short distance of the bottom of the gutter; it was only an approximate test, just to prove to my own satisfaction that my figures were all within bounds.

Q. What becomes of that exhaust steam from the non-condensing engine; does that go into the mill?

A. No sir. When I was there I should say that the greater part of it was going into the air; exhausting through a vertical exhaust pipe above the engine roof, as far as I could tell, as far as I actually saw it was all going——

Q. Are you familiar with the Babcock & Wilcox boilers?

A. Quite familiar; fairly so I think.

Q. Do you know what the evaporation of a Babcock & Wilcox boiler ought to be, per pound of Pittsburg coal, if clean?

963 A. The most satisfactory results of a splendidly conducted test might prove about 10.5—10.6, perhaps, I don't believe that has ever been approached under working conditions. I think, year in and year out, 9.7 to ten pounds of water, per pound of coal is a splendid result.

Q. That is you refer to pounds of water evaporated per pound of coal?

A. Yes sir.

Q. What estimate did you make of the gutter flow; that is by your calculations from testing the drifting—getting the suction of the current and getting its rapidity; what would you put the out-flow from that mill to be?

A. You mean the total flow from the mill, or from the hot well?

Q. We will say from the hot well; that of course would contain the condensing water, and we want the condensed water that is passing through that engine.

A. Yes sir; it would be the total of the condensing water, as you say—of the condensed steam—I figured however on that 221000 gallons in ten hours.

Q. Will you state again the estimate of that non-condensing engine; the power it developed?

A. 496 to 500, probably; that is the way she looked to me that probably she was running that day.

Cross-examination by Mr. FORMAN:

Q. Does a small, cheap engine, consume more or less water or horse-power, than a fine one?

A. Considerably more, sir.

964 Civil District Court, Parish of Orleans, Div. —.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony for defendant in above entitled and numbered cause, taken in open court this 3rd day of January, A. D. 1900, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLaughlin and C. C. Fredericks, for pl'ff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and Howard McCaleb, for defendant. Branch K. Miller, Esq., for Board of Liquidation.

F. T. LLEWELLYN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your occupation, or profession?
A. I am a constructural engineer.
Q. What, if anything, did you have to do with the Milliken Memorial out near the Charity hospital, and the water tank there?
A. The only connection I had with that building was the construction and erection of the water tower in the rear of the building.
Q. Is this a photograph of the erection?
A. Yes sir, from the rear.

Document identified by witness, is offered, introduced and asked to be filed in evidence by defendant's counsel, marked "Defendant, Llewellyn 1."

Q. Can you state to us the height of that tank from the ground?
965 A. Yes sir, from the ground up to the base of that tank is exactly sixty feet and half an inch, and the tank is fifteen feet high.

(No cross-examination.)

J. H. AIKEN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your business; what occupation have you followed?
A. My business in the plumbing business.
Q. How long have you been connected with the plumbing business?
A. Connected about thirty years.
Q. Including house plumbing?
A. All house plumbing, yes sir.

Q. Were you a plumber, or doing plumbing work prior to 1878?

A. Yes sir.

Q. While the water works was in charge of the city?

A. Yes sir.

Q. What was the character of plu-bing usual in houses; what did it consist of, urinals, bath-tubs——

A. Houses—house plumbing usually consisted of bath-tubs, closets, washstands, kitchen boilers, sinks, wash-basins—wash-tables—and hydrants, etc.

Q. In your operations as plumber in houses prior to 1878, had you the means of knowledge of how far a column of water would rise in a house, to what surface, without assistance?

A. Well, we couldn't get the water twelve feet; couldn't get it to the first story; we usually constructed what we call hydraulic rams, from there we would pump it into tanks up in the attic of the second story and that would supply the house. We couldn't get it sometimes—in the third district—in hydrants; it would hardly run out of the hydrants.

Q. To what extent were pumps necessary as an auxiliary to get the water into the second story?

A. They had to use pumps everywhere, if they wanted water in the second story.

966 Q. Did you ever have occasion in your plumbing at that time to "wipe" joints; lead pipe joints?

A. Yes sir.

Q. Can you state whether, at that time, you were able to wipe the joints without turning the water off?

A. Well, in the rear of Esplanade, say Esplanade and Rocheblave streets, you could repair the pipe without turning the water off; there was no water in the pipes.

Q. Will you explain to us what "wiping" the joints means?

A. Wiping a joint is taking two pieces of lead pipe, joining them together and repairing them; that is cleaning them, and then taken molten solder, with a cloth, and pouring it on with a ladle and then after it is poured on, wipe it all around with a cloth.

Q. Practically soldering pipes together in one sense, is it not?

A. Yes sir, soldering.

Q. Have you done any plumbing of the same class, or character, since the water works company have had charge of the works?

A. No sir, we have had a better service of water since then.

Q. I know; but I mean the same class of house plumbing?

A. Oh yes; we have done the same class of house plumbing; in fact we have done more plumbing.

Q. What if any, do you find the facilities, or difficulties for getting water above the first floor now?

A. Now?

Q. Yes.

A. We have none; we can average water now at about 60 feet.

Q. Can you state whether the character of plumbing, in dwelling-houses, has changed materially since you first began plumbing—I

mean in the way of convenience and appliances; water-closets, wash-boilers and sinks and water discharges in upper floors?

A. The plumbing is changed now wonderfully; it has changed over a hundred per cent. to what it was when I first went at it in 1869. Plumbing is now entirely different; we have now a great deal better facilities for water; naturally the people all use filters
967 and throw it into tanks on the roof—it passes right through the filter into the tank in the attic, or generally speaking a second filter, and they stow filtered water there and supply the whole place with it.

Q. In establishing a tank on a building for such kind of a supply now, to what height are you willing to go and guarantee a supply—I mean to the tank?

A. We guarantee a supply at forty-five feet.

Cross-examination by Mr. FORMAN:

Q. How many times in the day could you at all rely upon water reaching forty-five feet without any pressure, no extraneous pressure?

A. Well, to the best of my experience and knowledge, up in Audubon place, I have seen it running there in fact all day.

Q. Whose place was that?

A. Phil Rice's place. Passing through a filter and up into the cistern; the first cistern was put on a foundation of about five feet and then a fifteen-foot station and then another cistern on top of that and a third cistern on that one.

Q. When was his place erected?

A. His place was erected some time in 1897—1896 around there; first house in the park, I think.

Q. Was that tank, you say, put up there at that time?

A. Yes sir, I put it up there.

Q. How high was the tank?

A. The tank was an average of about forty feet.

Q. Forty feet?

A. Yes sir.

Q. And you have seen it running there all day?

A. Yes sir, I had to see it.

Q. How did you have to see it?

A. Because I had to guarantee the filter, we filter water way up into the tank.

968 Q. How long were you there?

A. I was there in the morning and went back in the evening about four o'clock; of course, I couldn't stay on the ladder all day and watch the filter.

Q. What time in the morning did you leave?

A. I left there in the morning about ten o'clock.

Q. Do you know as a fact, that it very frequently and continually happens that from about eleven o'clock in the day, until three o'clock in the afternoon, you can scarcely get any water, even on the second floor, anywhere up in that neighborhood?

A. No, sir, I have never seen it there, not to my knowledge, up in that district.

Q. Have you had any observation of the difficulty of getting water from about 11 o'clock in the day until about three o'clock in the evening?

A. Not since the water works company has put in a stand-pipe.

Q. I mean in the last ten years.

A. No sir, not to my knowledge.

Q. Are you prepared to say, from your observation that the people who use this water there—who have testified that they could get no water scarcely during those hours, that their statements are not true?

A. I couldn't say that their statements were not true; only what I saw.

Q. I am simply trying to get at the extent of your observation.

A. I am only telling you just exactly what I saw.

Q. Have you observed the flow—at what houses in the neighborhood, say anywhere between Peter's avenue and Carrollton avenue, have you observed the height of the flow of water during the hours I have indicated; that is to say, between half past ten or eleven o'clock in the morning, and three in the afternoon; or half past three?

A. I have noticed in the house of James Legendre in the
969 park; the house that burned down; I had occasion to put a filter there.

Q. Is that the only one?

A. *Yes* sir, in Phil. Rice's.

Q. Well;——

A. And I noted again in the Manson house also, in the closets.

Q. How high.

A. That height was about 25 feet from the tank to the closet.

Q. During those hours?

A. Yes sir.

Q. Any others?

A. Well there is plenty of others, but I cannot remember the other—others on State street.

Q. I want you to give me the names, because I propose to summon those gentlemen here and prove the contrary; that is the reason I am demanding the names.

A. Yes; well those gentlemen you can call on, because they will verify the statement I make.

Q. Is that all the names you can give?

A. Yes sir.

Q. You don't know the names of anybody on State street?

A. No sir; I can't think of the names on State street; it ran in Mr. Castle's house corner of State and St. Charles avenue, up to the tank in his closet.

Q. During those hours?

A. Yes sir. Also ran in Nicholas Burke's house; passed through the filter and went to the second-story cistern all day.

Q. How high is Castle's?
A. Castle's is about twenty-five feet. Burke's is about 30 feet——
Q. Well——
A. That is all; about all the names that I could mention.
Q. How high did you say was Phil. Rice's?
A. Phil. Rice's cistern must stand about 35 feet.
Q. How high was Manson's?
970 A. Manson's must have been about twenty-five feet.
Q. How high was Legendre's?
A. Legendre's must have been about thirty feet.
Q. Have you any others?
A. No sir. There is a filter that I sold at Clarence Lowe's that is working and throwing water up to the 3rd cistern, in the park also; I sold the filter but I didn't put it up; it is working though.
Q. How high is Clarence Lowe's?
A. It is a three cistern—must be thirty feet.
Q. You say that you observed that the water ran into those cisterns, without any extraneous force, from the pressure in the water-works pipe, from one to three o'clock in the afternoon?
A. I say it ran at ten o'clock when I was there; and was running when I went back again at four; it was running and filling the cistern and the cistern got half full of water and the cistern contained, on an average about three thousand gallons of water; but it was filtered; passing through the filter it was necessary to take the pressure off the water.
Q. The question I am trying to get at is; did you see the water between the hours of half past ten in the morning to three o'clock in the afternoon running without the pressure of any other force than the water-works pressure, in a cistern of that height?
A. Yes sir.
Q. Can you explain to me why, at my house which is nearly a mile this side of the location you are speaking of, I cannot get water higher than fourteen feet?
A. You may have a bad connection, you may have a solid joint; some of the solder gets in and makes what they call a solid joint.
Q. Suppose the conditions are that after nine o'clock I can get all the water I want; that would not indicate a solid joint, would it?
A. It would indicate that the joint was half solid.
Q. What?
971 A. I have seen some plumbers make a joint; the joint was half soldered with solder, and an accumulation of mud and shrimps got in there and prevented the flow.
Q. You mean to say the joint would let it out freely at night and stop in the daytime?
A. Yes sir, that could happen; I have seen it get so solid down in the Crescent hall that they couldn't get a drop out of it, and I went down there and took the shrimp out and the water ran.
Q. The joint gets stopped up with the shrimp?
A. Yes sir.
Q. That is what you call a solid joint?

A. Yes sir.

Q. Suppose the condition of affairs to be say that between the hours of six o'clock in the evening and ten o'clock at night there was good pressure and plenty of water, but from nine in the morning until three I could scarcely get anything fourteen feet in the bath-room, to fill the bath-tub—how do you account for that condition of affairs. Do you mean to say that the joint without any human interference would stop up at night, or open at night and stop up in the daytime?

A. I have never seen anything of that kind, sir.

Q. What?

A. I have never seen anything of that kind; not any like those.

Q. Isn't it a fact that the hydraulic, modern*ing* plumbing wastes less water than the old system?

A. No sir; modern plumbing takes about three times the water that the old system did; the old system is what we call open water-closets; we just merely dumped the excreta dow- into the trap and there was no flushing; the modern closet takes seven or eight gallons of water to clean the closet.

Q. Have you any idea of how the number of hydrants in *your* in 1898 and 1899 compared to those hydrants in use in 1877?

A. No sir, I don't know anything about that.

972 Q. The water works give you licenses before you can do any work, don't they?

A. Yes sir; I was very glad to see that they done that; that makes you have competent me- to do the work and don't allow a tinsmith to go around and tinker with plumbers' work.

Q. And the plumbers never send any boys around to work, do they?

A. Well, that depends on whether the boy is well informed; if the boy is twenty-one years of age, and is a competent man, they send him around to do a job.

Q. Unless you have the permit of the water works company you can't touch a water pipe, can you?

A. Well, there is people touching water pipes that haven't permits; we have an association of house plumbers, and we have asked the water works company to do that to protect the trade in the interest of the plumbing fraternity of the city.

Q. When did they commence to exact a permit?

A. They commenced to exact a permit from 1881 to 1882, I think.

Q. You didn't have that while the city controlled the water works did you?

A. Well, there was a good reason for that, because the city would allow anybody.

Q. Answer my question, did you have it, or not?

A. No sir.

By Mr. KRUTTSCHNITT:

Q. Go on and explain now.

A. The reason of that was that the city would allow anybody to go to work and tamper with the stop-cocks and they would leave the water on and the people got water free of charge; this way, the plumber is responsible if he leaves the water on. Responsible for his action.

By Mr. FORMAN:

Q. Do they charge anything for that permit?

A. Well, mine is so old that I really don't remember; I don't think I paid anything for it, but I gave them a bond, I didn't pay anything that I remember.

973 Q. Can anybody do that work, without giving that bond?

A. No sir; they have that all through the world, United States and England.

Q. Have you been all over the United States?

A. Travelled a good portion of it, yes sir.

Q. How many cities have you travelled through, and where have you investigated that subject?

A. Chicago, Cleveland, Buffalo, New York, Cincinnati, Louisville, Nashville, Chattanooga——

Q. You investigated that subject in all those cities?

A. That was my business; yes sir; I was the delegate to the association of master plumbers; I went out to those plumbers to see how plumbing work was done.

Q. Do you mean to say that in each of those cities they exact a bond from every plumber?

A. I was so informed by the plumbers themselves.

Q. You were informed so by whom?

A. By the master plumbers of the city; it was for their own interests they exacted that—that they adopted it.

Q. How many towns in England have you investigated in that way?

A. I met plumbers in Canada——

Q. That is a long way from England, isn't it?

A. Yes, I believe it is but they had an association that met in Canada—from England—and I met them at Niagara Falls and through conversing with them it was natural for me to understand how their business was going on and how the plumbing interests were and I inquired into that; they say that they do give a bond there always, to the cities as well as to water works.

Q. Do you know whether the water works are owned by the city, in any of those places?

A. Well no, I don't.

Q. Do you know it was not?

A. I don't know it.

By Judge BECKWITH:

974 Q. If 12, 14 or 15 plugs, two and a half inch nozzle, were thrown open by the city of New Orleans, or by hoodlums without warrant, on a main 12000 feet long and 12 inches in diameter; would you expect the pressure to remain upon that main?

A. You couldn't get the water sir to the second story then, 12 feet; I know during the drouth that the plugs were open and the people on St. Charles street complained during the drouth when people were getting water, that they could get no water to use in their second story; that was caused by the opening of the plugs and hydrants around there; the city giving the people water.

JOHN J. DONOVAN, sworn for defendant, deposes and says:

Direct examination by Mr. BECKWITH:

Q. What is your occupation, or business?

A. Engineer.

Q. Steam engineer?

A. I am at present employed as engineer of Keiffer Bros. stationary engineer.

Q. Were you ever employed, at any time, in the Maginnis cotton mills?

A. Yes sir.

Q. What years?

A. 1892 and 1893.

Q. They had, at that time, artesian wells?

A. Yes sir.

Q. Do you know what pressure was carried on the boilers, while you were there, steam pressure?

A. From 120 to 135 pounds.

Q. Do you know how much water was used in the condensing engine, for condensing, per minute?

A. I don't exactly know the amount of water; but we had three artesian wells, and had one Blake pump, at least a Gardiner pump which assisted the condensor in lifting the water from the artesian wells, and at times; once in a while, we would have trouble
975 in getting a certain amount of water for condensing purposes, and upon two occasions I took it upon myself, so as not to jeopardize the work of the Maginnis cotton mills—I went out and opened the water-works pressure, so as to get an amount of water for condensing purposes, and Mr. Maginnis, he raised Cain about it and told me never to do it any more, and I assured him I would not.

Q. Were you present there at the mills when the meter was installed in the water-works service?

A. No sir; it was there before I went there.

Q. Then, when you drew water from the water works to aid your well supply for condensation, you drew it threw the gutter?

A. Yes sir.

Q. Do you remember the size of your air pump, the piston I mean,——

A. The piston that was on the condensor?

Q. Yes.

A. Thirty-six-inch in diameter, 28-inch stroke.

Q. Would that life water from the wells directly?

A. No sir, had to have the assistance of this Gardiner pump, down at the surface of the earth; I started that pump running about six in the morning to get the water started into the condensor and flowing through, going out into the street; and just as soon as they started the condensor up; got ready to start the mill at quarter to seven, it being such a powerful pump there was many a time you could open the jet cock on the Gardiner pump and it would pull vacuum, you would think there was no water at all, yet they had three wells.

Q. At the time when you did not use any of the water-works water to assist in condensation, what became of the surplus water of your wells, beyond the amount used in condensation, or did it all go through the condensor?

A. It all went through the condensor, right out into the gutter.

Q. Do you remember the size of the Gardiner pump and the number of strokes.

976 A. When the pump would be running it would make about 140 strokes a minute when the condensor would be on and the more water that I got the more vacuum I made.

Q. What I ask you is do you remember the size of the water piston on the Gardiner pump. Your auxiliary Gardiner pump?

A. 12 inches in diameter and fourteen stroke.

Q. Was it a piston or plunger?

A. Regular piston pump.

No cross-examination.

CHARLES W. ALLEN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. You are deaf?

A. Yes sir.

Q. Can you tell us whether you ever were in any way connected with the Maginnis soap works?

A. The oil works, yes sir.

Q. In what capacity?

A. Well sir, I have worked in the soap department and worked in the oil department, worked for them for twenty-odd years?

Q. About what year did you begin your services there?

A. Well, I couldn't exactly tell; I think I went in there in the fall of '66, the mill was situated on Magazine street at that time, between Girod and Lafayette; somewhere about where the engine-house is now.

Q. That burned down, did it not?

A. Yes sir, burned down.

Q. I refer to the new mill.

A. Julia and Tchoupitoulas streets.

Q. When did you begin work there?

A. Well I cannot exactly tell the day and date; I went to work

on Magazine street and when the mill was erected there I crossed from Magazine over to Julia street.

Q. So you commenced working there when the new mill first started?

977 A. Yes sir.

Q. What was the character of your duties?

A. Well sir, I went there as the oil-press man; went into the oil-press business and individually had charge of the oil department that is, the press-room where we press the oil.

Q. Did that mill run the whole twenty-four hours when it was running?

A. Yes sir, night and day.

Q. About what portion of the year; how much of the year was that mill running?

A. Well, sometimes—it depended on the grade of cotton, I think probably it would run sometimes up to the 15th of August; other times we would run probably to the latter part of—well, some time in June, and that was just the way we worked there all the time; sometimes a season would be longer than others.

Q. About what time did you begin grinding the crop in the fall?

A. Well the time used to be, sometimes, pretty near the 15th of September, probably a little later, it would depend upon the season.

Q. How many gins or linteres did you have there?

A. Well, that was the mill department, upstairs, I think we had somewhere in the neighborhood; I couldn't tell you about that department, as I told you I was in the press department downstairs—well I should say we had about 12 or 13 gins—linters.

Q. How many hydraulic presses did you run?

A. We had eight, twenty-box presses, I think, and two 19-box presses—they went in the figure of boxes at that time, to the press.

Q. About what pressure would those hydraulic presses exert on the seed?

A. Well, we had two Knowles pumps there that run to about 35 to 3800 pressure.

Q. Per inch?

A. Yes sir.

Q. Were the presses run by independent pumps, or were

978 they run by belts from the main engine?

A. They were run by two—the presses were all connected, but *two* these two hydraulic presses, the sweeps that we cook the seed with, were connected with what we call a chain and belt running a counter-shaft, and the counter-shaft caked the seed; it was put into kettles and when they turned the stuff on the press, then came the pressure from those two large pumps.

Q. What I mean to ask you is—I will ask you—in those pumps, did you use oil or water?

A. Oil; they were run by steam and the presses were worked by oil.

Q. By what power was the oil pumped into the rams?

A. By hydraulic pump.

Q. Was that driven by steam direct?

A. Yes sir it was entirely—a steam pump at one end that made it go and the other end of it was the oil pump that made the pressure.

Q. How was the seed cooked, or heated, by steam, or what?

A. By steam.

Q. With coils?

A. Yes sir in a regular kettle there, somewhere about 4 feet in diameter, connected with the shaft bin the centre and in the bottom of that shaft there were swe-ps that crossed and those were run by gear. And these here sweeps would draw the seed and cook it and put it in the press.

Q. How was that steam drawn out, in coils?

A. No, directly into the kettles.

Q. How many of those kettles were in operation?

A. We had a kettle to each and every press; we must have had ten kettles, sir.

Q. Do you know what sort of an engine they had downstairs? The main engine?

A. In the oil-press room?

Q. No, where they drove the whole mill.

A. They had a Corliss engine, but I don't know exactly the size; I think it was 22-inch cylinder and four-foot stack, I am not
979 positive.

Q. The live steam that you used in the press-room came to you direct from the boilers?

A. Direct from the boilers, yes sir.

Q. You knew nothing then, I suppose, about the clarification of the oil; you had nothing to do with that, it was done upstairs?

A. Done upstairs?

Q. You don't know whether it had to be heated, or not?

A. Don't know; they said it had to be brought down to the clarifier.

Q. Do you know whether there was another engine, besides the main engine, up on the upper floor?

A. Up in the seed department they had a little engine to run their little crutches, etc.

Q. What part of the product of the cotton seed was used up in the seed department?

A. Well, it was what we call the foots; the bottoms of tanks, etc., what we call soap stock. It was what was called all around in those mills, soap stock.

Q. Do you know about how much you made there in the way of soap stock?

A. No sir, I couldn't tell exactly—couldn't exactly tell you that.

Q. Do you how much so*pa* was put out of that factory in a year?

A. No sir, that was the soap department.

Q. Was there a very small, or very considerable soap stock made in that mill?

A. We ran in oil and we used to clean out our tanks probably about once a week and accumulated from ten to 13 barrels.

Q. A week?

A. Yes sir.

Q. Do you remember about the amount of oil that your mill turned ou-, the average per season; I mean the oil in a mercantile condition?

A. No sir, I never kept the run of it.

980 Q. Was the consumption of steam in your department, for heating, considerable, or small?

A. Well, each and every pipe that was connected to our kettles was a half-inch pipe.

Q. Open full size?

A. Well no sir, we couldn't very well do that, it would burn up the seed; there is a great deal of judgment in cooking seed; the secret of cotton-seed oil is in the cooking of the seed; you can burn it up and get no oil at all, or you can cook it long enough and then get no oil; it is all a matter of judgment—sometimes the seed would be very dry and require very little steam, and sometimes it would be very wet and require a great deal more, and it is a question of judgment with the heaterman which of those kettles was done; what we call the heaterman; there is a heaterman and a pressman to a press.

Q. Do you know what fuel they bruend there?

A. No sir; that was the engineers' department.

Q. Have you any idea, or do you remember, how much cotton seed went through the mill in a day?

A. No sir, I couldn't say.

Q. About your capacity——

A. No sir, don't know anything about that.

Q. There were stables on the premises, weren't there?

A. There was stables on the Commerce Street side, but they were away from the mill altogether; a brick wall stood between the stable and the mill.

Q. Do you know how many mules, or horses they kept there?

A. No sir, I don't know, sir.

Q. Do you know whether the hauling for that mill was done by the company itself, with their own conveyances and horses, or whether it was outside hauling?

A. I think it was all done by the people themselves; they run their own wagons, as much as I know. They did run them—

981 I don't know whether they run them afterwards or not, but they ran first and I think in the latter part the younger brother, Mr. Albert he done the hauling, but I am not positive.

Q. Can you give any idea how many animals they had there?

A. No sir not the number exactly, no sir.

Q. Can you tell us approximately; they had more than one, didn't they?

A. Sir?

Q. They had more than one, didn't they?

A. Oh sure, I can say that, yes, but to tell you what was not right I couldn't. I could probably figure on eight or ten animals myself, at one time, but to know the real numbers I couldn't tell you the facts about it.

No cross-examination.

982 FRANK T. HOWARD, sworn for defendant, deposes and says:

Direct examination by Mr. BECKWITH:

Q. Were you at any time a director in the New Orleans Water Works Company?

A. No sir, never have been.

Q. Never have been?

A. No sir.

Q. What relation, if any, do you hold to the Maginnis Cotton Mills Company?

A. I am the vice-president.

Q. How long have you been vice-president.

A. Seventeen years; since it started.

Q. Were you vice-president at the time of the dispute with the water works company, about 1889, about the bill.

A. What year?

Q. 1889.

A. Yes sir.

Q. Mr. Maginnis says that it was through your intervention that the matter was settled, will you please tell us what you had to do with that and what you know about —?

A. Well, Mr. Maginnis and the water works had been at loggerheads for some years, and they got to such a point that Mr. Gardiner and Mr. Maginnis couldn't settle anything; and when the water works sent their bill in it staggered me at first, but when I began to find out how much water they were using and began to calculate, why it looked quite reasonable, as far as I could find. The water works said they were using 500,000 gallons a day; that was what they based their calculation on, and putting it down at 300,000 at 15 cents a thousand, it would make a bill of $13,000, so that when it came in at $7500, though it looked very large at first; it was quite reasonable in proportion to the water they were using.

983 I believe the mill was using about one-sixteenth of all the water works was pumping. In fact the ice company across the street couldn't get any water at all; the mill was using it all, it came down that way first and Mr. Maginnis refused to pay and the water works board had passed a resolution to sue the mill, if not cut off the water. So then I took hold of it and went to Mr. Maginnis and told him we must do something; the year was up and some sort of a bill ought to be paid—they don't pay in advance. The mill refused to put in a meter to measure the water and after talking two or three times with Mr. Craig and Mr. Maginnis, we

settled on $5500, and the mill paid $5500.00. Then they put down wells immediately; I think, as far as we could find out, each well was producing 100,000 gallons a day, or 300,000 would come out of the three weels, and of course, after that, they didn't need any river water.

Q. Do you know whether, when the water was turned on in the mill by the water works, there was an exaction of pay in advance?

A. No, I don't remember.

Q. The controversy that you speak of; did that run through the year for which that bill was presented and paid?

A. Oh yes; it began some time before, I don't think it is ended yet so far as Mr. Gardiner is concerned.

Q. What do you mean, by "as far as Mr. Gardiner is concerned"?

A. Well, I don't think Mr. Gardiner and Mr. Maginnis have been on very friendly terms.

Q. I didn't refer to their personal relations; what I refer to is the water controversy.

A. Well, Mr. Gardiner always represented the water works company, and I don't know how Mr. Maginnis feels now towards the water works, I shouldn't think it was very friendly though.

Cross-examination by Mr. FORMAN:

Q. You are a considerable stockholder in the water works company, Mr. Howard?

984 A. Yes sir.

Q. How long have you been such?

A. Oh, I think I have been a stockholder since Mr. Toby was there.

Q. Almost the beginning?

A. Yes sir.

Q. You are, of course, also a stockholder in the Maginnis mills?

A. Yes sir; helped to start the mill.

Q. Sir?

A. Helped to start the mills.

Q. Have you any objection to telling what is the amount of your stock in those respective concerns?

A. Well, I have no objection in the world. I have one thousand shares in the water works and 250 (two hundred and fifty) shares in the Maginnis mills—my family, altogether, have about 1000 shares, in the mills.

Q. You mean by your family, your brothers?

A. My brother, and my sister.

Q. And how much has your family in the water works Co.

A. Well, my brother has a hundred shares.

Q. I believe the par value of each is $100 a share?

A. How is that?

Q. The par value of each share is $100?

A. Yes sir.

Q. Did I understand you correctly, to say that the Maginnis mills refused to put in a meter?

A. Yes sir, they refused to put in a meter; Mr. Craig wanted to put in a meter so as to convince both the water works and the mills exactly how much water was being used. The water works and their engineer after computing—I don't know what the system is—had the pressure at the outlet, or the opening of the pipe—they computed that the mill was using 500,000 gallons a day, and Mr. Maginnis said they were not; but he would not get any engineer to ascertain it, although that would have been the proper*ty* way to do, to have gotten somebody outside, and then have it arbitrated; and they could come to no conclusion and after running the
985 *ted; and they could come to no conclusion and after running the* year through the water works had passed a resolution which I suppose is on their minutes, to sue the mill—cut the water off.

Q. Did you, yourself, take any measure to ascertain what was the quantity of water that they used?

A. No, I am not an expert.

Q. Why did the Maginnis mills refuse to take a meter?

A. Well, I am sure I don't know.

Q. Don't you think the meter would have been the most satisfactory way of ascertaining the quantity used?

A. I think so.

Q. And the most just.

A. Yes sir, well it would have given a basis to work on; a meter is not, so far as I have heard, always accurate; the sand goes through it and wears out the meter—the wheels, or something and it is not always accurate; but still, it would have been a basis to work on.

Q. As long as the meter is reasonably new, it is pretty close to accuracy?

A. Yes, it would be pretty close.

Q. And when it gets so worn as to let the water go through, as the result of sand and mud in the water, a new meter could be put in?

A. Yes sir.

Q. You have meters there now?

A. I don't know, I think they have, the meter was put in afterwards.

Q. There was a meter put in after this controversy?

A. After the bill was paid—after the wells were put in.

Q. Can you account for the fact, as vice-president and member of the board of directors of the Maginnis cotton mills—account for the fact stated here, that after the meter was put in they were
986 using river water down there, and the wells had given out, their bill amounted to only about $1200.

A. Well, it may have been a bad meter, I don't know.

Q. So far as you know, it was a new meter, wasn't it?

A. No, I don't know that, I wasn't there.

Q. Don't know when it was put in?

A. I wasn't there at all—no; the mill certainly used more than that, because the wells, Mr. Maginnis has told me, and so has the engineer, and so has everybody up at the mill, the superintendent

also, that the well there gave about 300,000 — a day, and every bit of it is used.

Q. Yes; but on account of the digging o- wells in the neighborhood the water on that stratum was exhausted, then deeper wells were dug?

A. No, by compressed air they force the water up; the water is down there, but the pressure of course gave out on account of those other wells; but the water is down there, and all they had to do was to force it up by compressed air, and that is what they do now.

Q. Isn't it a fact that they dug deeper wells to reach a lower stratum?

A. Yes, but this stratum that they struck seemed to have no end of water, 750 feet, sort of underground river, or something.

Q. Do you know how deep the deeper wells are?

A. Well,—why they are about 750 to 760 feet, I think.

Q. That is the deepest?

A. I am not sure, I think so.

Q. What was the depth of the earlier wells, that Mr. Maginnis says gave out?

A. Well, yes, all the same wells, those are the same wells that gave out; only he put in compressed air; the water was down there but it would not flow up.

Q. He didn't dig them deeper then?

A. I don't think so, if he did I never heard about it.

By Judge BECKWITH:

Q. What is the capital stock of Maginnis mills, in amount?

987 A. Well it is $475,000.

Q. What is the capital stock of the water works.

A. Two million, I think.

By Mr. FORMAN:

Q. Do you know the size of the pipe that carries the water of the water works company into the mills?

A. The first mill that we put up in 1882 had a four-inch pipe, if I remember right, on Payfare street, and the next mill we put up in 1888, they put in an eight-inch pipe on Calli-pe street, if I remember right—it was an eight-inch pipe. The second engine was a condensing engine and the first was not.

Q. I suppose you work—about how many hours a day.

A. About ten hours, ten and a half.

By Judge BECKWITH:

Q. In which of the institutions, the mills or the water works is your interest the largest, you and your family?

A. Well, I should think that counting the shares of stock, they were about the same; in fact I think we have more bonds in the Maginnis than we have in the water works, I should say that, putting the stock at par in both institutions, my interest in the mills is largest.

Q. When were the Maginnis Mills bonds issued; when the first mill was erected, or the second?

A. Why the second mill, we couldn't place the stock, we had to mortgage the property.

Q. The first *kill* was built then, on subscription?

A. Yes sir, on the capital, on the stock.

Q. Can you tell us about when that mill was built; the second mill?

A. The second mill, built in 1888.

Q. How many bonds were issued?

A. 300.

Q. Three hundred thousand?

A. Three hundred thousand and we had a debt a floating debt, of about three hundred thousand.

988 Q. Mr. Maginnis says only one dividend was ever declared; were there no earnings?

A. He said there was only one dividend?

Q. I understood him to say so.

A. We declared three, and we wiped out a floating debt of $300,000 that has all been wiped out, and fifty of the bonds have *been* taken up last week.

Q. The earnings of the mills instead of being—at times the dividends were not declared the earnings went to the liquidation of construction debts?

A. Yes sir, to wipe out the floating debt, instead of paying dividends.

Q. When were the three dividends declared, do you remember?

A. Well, I think two of them were declared about 1891, or 1892, somewhere along there, both declared in one year, and then a small one was declared about three years ago.

Q. The first dividends were semi-annual dividends?

A. Yes sir.

Q. The earnings then, other than those declared in dividends, have been used in paying floating debts, in taking up the bonds?

A. Yes sir.

Q. What was the interest on those bonds?

A. Five per cent.

Q. And that has been paid, I suppose, out of the earnings?

A. Oh yes.

Q. There has been no default in that?

A. Oh no, no.

Q. Did you, yourself, individually, ever notice the outflow of the water into the street from your mill: after you got up that condensing engine?

A. Why yes, I have notice- it every time I have gone up there; it flows down Callio-e street, and the people all the way down to Camp street dip it out of the gutter, I suppose all the house- along there, for washing and scrubbing.

989 Q. Has there been any material change in the volume of that water since you first noticed?

A. I don't think there is.
Q. It is a kind of a small river, isn't it?
A. Yes sir; it is quite a large stream, good for the neighborhood.

By Mr. FORMAN:

Q. I infer from your last answer to Mr. Beckwith that you own some of the mortgage bonds of the Maginnis mill?
A. Yes sir.
Q. How many?
A. Well, I should say that we have got about 80 altogether.
Q. Of $1000 each?
A. Of $1000 each.
Q. The stock of the Maginnis mills is not on the market, is it?
A. Well, it is on the market, but nobody wants it.
Q. I mean to say that there is no market price on it?
A. No, I don't think any has been transferred for several years.
Q. There is no way of establishing the market value of it at all?
A. No.
Q. It is not listed at the stock exchange?
A. No, it is held by the Maginnis, ourselves and two or three others.
Q. So I have always understood, I just wanted to get the facts?
A. Yes sir.
Q. You also own some bonds of the water works Co.?
A. Yes sir.
Q. How many of those?
A. Well, I should say about 55 or 60.
Q. Of $1000 each?
A. $1000 each. The- are worth more though, they are worth about 115., the others are worth par.
Q. About a year ago the water-works stock was above par, wasn't it?
A. Well, I think it was about 110.

990 DEWITT HARRISON, sworn for defendant, deposes and says:—

Direct examination by Judge BECKWITH:

Q. Were you, at any time, engaged in any capacity in the Maginnis soap and oil works.
A. Yes sir, I was there with my father in the soap works.
Q. What department were you in?
A. Soap factory, soap department.
Q. For what period of time were you there?
A. Well about 1881 to, I think, 1890, eight or nine years.
Q. Your father was superintendent of the soap department?
A. Yes sir.
Q. Did he have anything to do with the clarification of oil?
A. Yes, refined the oil too.

Q. Will you tell us how oil is refined, or was, in that mill?

A. Refined by the use of alkalies—I believe we refined there about 250 barrels at a time, used alkalies and then close steam, close steam highly heated—up to about 110.

Q. What was the size of the tanks, clarifying tanks?

A. Well the tank was about a 40-barrel tank, about fifteen feet in diameter and about 17 feet deep; but we never refined over 250 barrels,—too large.

Q. Was there more than one of those tanks?

A. Not for refining tanks, there was a finishing tank.

Q. During the process of refining oil was it, at any time heated?

A. Heated with close steam—close-steam coils; in close coils.

Q. A coil in the tank?

A. Copper coil.

Q. Where did that steam come from, the main boiler?

A. Came from the boiler.

Q. How long would it take for 250 barrels, or whatever you clarified at once, to bring that oil to a temperature of 110, or whatever you brought it to?

A. Well, take all the way from half an hour up to two
991 hours and a half, depend on the temperature of the oil; in the summer it might be up to 75, but you get it again in the winter time and it might be down to 60.

Q. Was the steam consumption there large; what size pipe did you have?

A. Well there was a two-inch pipe and we had the exhaustion of about half an inch.

Q. That is, about half an inch steam and water for condensation?

A. Yes sir.

Q. Where did that water go to?

A. Well, that went into the gutter.

Q. Now, how often would that heating of that tank be repeated, say, in a week, when you were running?

A. About five times in two weeks—about a run of the mill.

Q. Now, in the soap department what material was used for the saponification—what oil?

A. We didn't use the oil; we used the droppings from the refining; we called it soap stock.

Q. Was there any other material used in that factory, from the outside?

A. Well, we used rosin and stuff like that; put rosin in the soap.

Q. No oil?

A. Well, once or twice we made some tallow soaps, but very seldom though.

Q. Will you tell us the process of soap-making from the soap stock, the merchantable article, in so far as heat is concerned?

A. Well, there was about 15 changes in it, the kettles we had it fixed at four days, about two hours a day; there would be five—six—give us ten hours, you might say, steady boiling to a kettle.

Q. That is, after alkali had been added?

A. Oh, the whole thing together.

Q. What was the size of your kettles?

A. About three hundred barr*les*; two o*g* them—one was 275, and then there was four smaller ones 40 or 50 barr*els* each. That
992 was 50 gallons to the barrel. We could put about 200 barrels in one of those kettles.

Q. Did you heat those kettles by coils or by letting steam into them directly.

A. Well, we heated them both ways; generally started them open steam, open coils; had about an inch and a half coil in them, an inch and a half pipe, about three feet in diameter, perforations at 8 inches—holes in them every xi inches.

Q. That was at the bottom of the kettle?

A. Yes sir.

Q. And the steam escaped through the perforations?

A. Steam came right up through the stuff.

Q. In what kettles, if any, did you have the close coils?

A. We had them in two of the large ones, and the four small ones, the four small ones were jacketed—they didn't have coils, but the bottoms were all jacketed the same way.

Q. What was the size of the steam pipe conveying the steam to that series of kettles?

A. I believe it started to boil at three inches and then went down to two and a half, then went down to two inches at the end of the series.

Q. The steam for that also came from the main boiler?

A. Came from the boilers, yes sir.

Q. You had a steam-engine also up there, did you not?

A. Had two of them.

Q. Well, what were they used for?

A. Used for refining and taking out soap;—one was—the other was used for mixing, had a mixer too.

Q. Do you remember the size of that engine?

A. One was about an eight, and the other was about a twenty horse power, as near as I can remember.

Q. Did the steam for those engines come from the main boiler.

A. Came right from the steam pipe.

Q. Was the consumption of steam in that department of
993 refining, or—clarifying, and soap-making large?

A. Well I don't think; we had one double and one single battery there of Babcox & Wilcox boilers, and the single boiler would run us easily; the mill was shut down in the summer time, and we ran easily on the single boiler.

Q. Do you know about what horse-power that single boiler was?

A. No, but somewhere around about 125 or 120, something like that.

Q. What was the output; annual average output as near as you can recollect of soap and oil from that factory.

A. Well, the soap was about 45 or 50,000 boxes, I think the oil, I don't know—some years it would run six or eight months and some we *we* would not run more than one, I cannot exactly tell that.

Q. Can you approximate the output for a month when it was running full?
A. Made one hundred and ten 50-gallon barrels a day.
Q. Do you know what fuel was used in that boiler?
A. Used hulls and used coal.
Q. Were the entire hulls of the mill burned up?
A. No, a good many sold for cattle feed.
Q. There was a stable connected with that establishment also, wasn't there?
A. Yes sir.
Q. For horses and mules?
A. Mules.
Q. How many horses, or mules did they have there?
A. I don't know, I think they ran six wagons—I think—that would — 18 or 20, I couldn't say exactly.
Q. Would their wagons be three-mule teams?
A. Three mules.

No cross-examination.

994 GEO. SELBY, Esq., sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. What is your occupation or business?
A. Plumber.
Q. How long have you been a plumber?
A. About forty years.
Q. You were plumbing here in the city, doing house-plumbing work prior to 1878?
A. Yes sir.
Q. In your house plumbing, did you get knowledge of the general amount of pressure carried on the works while the city owned them?
A. I did, yes sir.
Q. What was it?
A. Well, in years back the pressure was very poor; not above twelve to fifteen feet. Just prior to the water works company taking charge.
Q. Could a bath or a water-closet on the second story be relied upon to get a supply under that pressure; without aid?
A. Only at night-time—in the daytime it wouldn't run up.
Q. Will you tell us what sort of devices are resorted to to get the water up?
A. Pumps as a general thing. Pumps and tanks in the attic, and in that way to distribute the water through the house.
Q. Have you done any plumbing since the water works company took charge of it?
A. Yes, up to the present day.
Q. What do you find the pressure now, or prior to the 1st of January last?

A. Equal on every occasion on the second story, and even on the third story the water runs up.

995 Q. Are there any appliances now in the way of power or pumps resorted to, to carry water supply to the third story of any building?

A. Not any as I know of, they have all been done away with.

Q. Hasn't there been a material change in the character of sanitary plumbing and vaults in houses, in the water of water-closets?

A. Yes sir, there has been a great change.

Q. To what extent, if any, are the vault basins in water-closets?

A. Well, there is a great deal more water used nowadays than there formerly was. The fixtures in the houses require a great deal more water to flush them, and they use a great deal larger quantity of water.

Q. Is it not true that most houses now that are claimed to be fitted up in modern styles have many more openings than they used to have?

A. I don't know that I catch your meaning.

(Question repeated to the witness.)

A. As a general thing, yes sir.

Q. About how much water does it take on each occasion, do you think, to flush the modern tank water-closet?

A. Well, I should say about three, four or five gallons to fill a flush tank full—generally they flush.

Q. About how much water did it require on the usual flat basins as they call it?

A. Old style?

Q. Yes.

A. Well, generally about a gallon or less.

Cross-examination by Mr. FORMAN:

Q. Are they not constructed so that only a given amount is used with an automatic shut-off?

A. Generally the tank is full. It contains from four to
996 six gallons, and when you rise, in order to flush the closet, most of the times it empties that flush tank.

Q. Isn't there an automatic cut-off there?

A. No, only the valve; when you pull that valve the tank empties.

Q. The entire tank?

A. As a general rule sometimes it may not quite do so.

Q. Haven't you got an automatic cut-off that lets a given amount into the basins or into the water-closet pan?

A. Not with the regular flush closet; we didn't have no automatic cut-off, they generally have a ball in the tank; when the tank is full of water and the closet is flushed, it empties.

Q. Where do you get an exit; where does it go. Where does it wash to?

A. Through the pipes to the vaults.

Q. Where are the vaults put?

A. Well, some in the yard, some under the house, just depends upon where the owners sees fit to locate them.

Q. You have to empty those vaults about every month at that rate, wouldn't you?

A. A great many of them ought to be emptied every month, but they don't do it though.

Q. Six gallons at a clip?

A. A certain amount soaks away through the soil.

Q. Suppose there are six persons in the family, and they use that closet once a day—six gallons at a clip, would be thirty-six gallons and six days in the week would be about eleven or twelve hundred gallons a month wouldn't it?

A. Some people use it very frequently, and others don't.

Q. How many vaults are there, do you know that will hold twelve hundred gallons?

997 A. A great many of them Mr. Forman, a great many of them; lots of vaults in this city will hold double that amount.

Q. I mean outside of the hotels?

A. Yes sir, and private residences. There is some of them built with that capacity.

Q. Can you name a few that will hold twelve hundred gallons?

A. I can't call to my mind just now, but there is—there is some very large vaults.

Q. You can't name one however?

A. No, I couldn't remember just now.

Q. You can't name a single person——

A. I know where there is vaults though.

Q. You can't name a single private family that has a vault that will hold twelve hundred gallons?

A. Never examined those things so very closely, but I know from outside appearances they would hold twelve hundred gallons.

Q. Outside appearances of what?

A. The cesspools.

Q. Name one?

A. There is plenty of large residences uptown, but I couldn't call any to mind.

Q. You can't name a single one?

A. No.

By Mr. BECKWITH:

Q. Isn't the cesspool system in this city predicated largely upon a large absorption—of the surrounding soil carrying water off, and keeping it dry?

A. Certainly; there is a certain amount of that water that the soil absorbs, and that is the reason why they don't have to clean it out so often. Dry seasons it is more so than wet seasons.

998 Very wet seasons when the soil is saturated, the water does not seep away so fast.

Q. The bottoms are left open on purpose to carry that off?

A. Yes sir, just the soil.
Q. Left open to carry it off?
A. Yes sir.

M. BRIEDY Esq., sworn for defendant.

By Mr. BECKWITH:

Q. What is your occupation sir?
A. Plumber.
Q. How long have you pursued that avocation?
A. About forty years.
Q. In the city of New Orleans?
A. Yes sir.
Q. Were you plumbing prior to 1878, or prior to the time when the water works company took charge?
A. Yes sir.
Q. Were you engaged in plumbing houses for water supply?
A. Yes sir.
Q. What pressure did they have—equivalent to what column of water; could you get into the second story of a building with certainty that it would be supplied?
A. Hardly ever. In former times they had to use force-pumps to pump into reservoirs.
Q. You continued your business from 1878 down to the present time?
A. Yes sir.
Q. What is the trouble now in getting water to the second story?
A. Don't have any trouble at all; only in drouths sometimes when the fire-plugs are opened on the street, the fire-wells are
999 opened, and sometimes they don't get the water.
Q. In the ordinary consumption of the city, how far up can you safely insure people that they will get water?
A. Well, about thirty-five or forty feet.
Q. There has been since 1878, has there not, a material change in the style of house plumbing—water-closets?
A. Yes sir.
Q. What was the form of water-closet basin, or attachment used up to say, 1878—a flat basin?
A. They would use what they call "pan" water-closets.
Q. With a gooseneck and handle?
A. Yes sir. Pull to it.
Q. What form is used now?
A. Forms they used to flush with.
Q. With a tank?
A. Yes, with a tank, sometimes with low-down tanks.
Q. About how much water will those tanks hold usually?
A. They usually hold from six to eight gallons.
Q. And the tank is emptied every time the closet——
A. They use syphon tanks; the very minute the chain is pulled

it exhausts all the water that is in the tank; the vault cock drops down, and of course pulls up again.

Q. There is an automatic check-valve used to regulate the flow into the tank and cut-off when the tank is full?

A. Yes sir.

No cross-examination.

JOHN HANAFY, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. What's your occupation?

A. Journeyman plumber sir.

Q. How long have you been engaged in plumbing in the city of New Orleans?

A. Thirty-four to thirty-five years.

1000 Q. You were doing house plumbing then prior to 1878 and 1879?

A. Yes sir.

Q. And during the time that the water works was operated by the city?

A. Yes sir.

Q. Could you, at the time the works were operated by the city, install water-closets in the second story of any building, with certainty that they would be supplied without pumps or by pressure?

A. That would depend upon the location of the building sir—what part of the city it would be in.

Q. What portions of the city could you get it?

A. Well, you can get it in the commercial part of the city, up to as far as Felicity road.

Q. Was it not, at that time, common to install a pump or some fitting, so that in case it did fail they could use it?

A. Yes sir.

Q. Has there not been a material change in the style of house plumbing—water-closets in particular, since 1878?

A. Very material difference, yes sir.

Q. Has there not been generally in houses that are considered well fitted up, a large increase of the number of openings used for water in well-fitted buildings?

A. Yes, there are.

Q. Now, do you remember what style of water-closet basins you used to install prior to 1878?

A. Well, they used to use as a general thing what they call "pan" closets—bowl closets sir, and they used to use "hopper" closets a great deal.

Q. What?

A. Hopper closets.

1001 Q. They were flushed how?

A. Well, a tank system sir; a small tank overhead, tank probably about three feet long, according to the location or the size

of the room, three feet long, eighteen inches wide, and eighteen inches deep.

Q. The valve was operated by a seep wasn't it?

A. Some by the seep and some by a bowl.

Q. Was that hopper installation carried on to any great extent?

A. Well, no sir; they would always have a sufficient supply of water there though.

Q. About how much water does it take to flush a basin or bowl?

A. Well, a pan closet would not require as much as what we have now—a flush closet would require about two to three gallons of water.

Q. What?

A. Two to three gallons maybe; maybe it would be sometimes now, on a pan closet, but it would hold the lever up and let all the fœcal matter wash out.

Q. That is, the water ran as long as they held up the valve with the pan?

A. Yes sir.

Q. In the system of tank closets, how do they operate?

A. At the present time?

Q. Yes.

A. They are self-feeders; they have what we call a ball cock in there, and it feeds itself, and as the tank is e-ptied, it feeds itself.

Q. In case of flushing, does the tank empty?

A. Yes sir, as a general thing.

Q. Has it not become a system almost in well-conditioned
1002 houses now to have a clarification device in the way of a filter or something connected with the system?

A. Well, there is a great many of them in use; yes sir, different kinds of filters.

Cross-examination by Mr. FORMAN:

Q. Have you ever experienced any trouble in getting water on the second stories in the last ten years?

A. Well, no sir. I have never experienced any trouble myself individually sir in the places I have worked; they have always got water on the second floor.

Q. Sir?

A. In the places I have worked they have always gotten water on the second floor.

Q. What time in the day did you examine them?

A. Well, sometimes in the afternoon, sometimes in the morning, according to what time I would be sent upon the job sir.

Q. You never experienced any difficulty between ten and three o'clock?

A. Well, no sir, not that I ever found any trouble sir. I have always got water on the second floor every time.

MICHAEL LONG, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. What is your occupation?
A. Plumber sir.
Q. How long have you been a plumber?
A. Well, I think it is over forty years.
Q. You were doing house plumbing then, prior to 1878 and 1879?
A. Yes sir.

1003 Q. You are familiar with the amount of pressure that could be relied on in the water-works system when the city had charge of it?
A. Yes sir.
Q. Could you carry water into the second story, to water-closets there, with a certainty of obtaining a supply all the time?
A. Not all the time sir, only occasionally have to raise it to the second story.
Q. Was it not a part of the installation of all second-story equipments there, to have a pump or some provision for getting water to the water-closets, other than by direct pressure at the works?
A. Yes sir, generally used to have tanks, so as to supply the fixtures during the daytime, and also had pumps to pump the water up to those tanks.
Q. The system of plumbing that is now used in well-supplied houses is different is it not, from the system of plumbing at that time?
A. Yes sir.
Q. Don't the plumbers now attach a clarifying device to house-plumbing system, if they desire it?
A. Yes sir, in different cases they have these filters.
Q. How many filters do you know: there is a Luderbach filter—how many sorts of filters are there now available in the market here?
A. I couldn't say sir.
Q. What?
A. I couldn't say.
Q. Do you know whether there is more than the Luderbach?
A. There is the Shepard filter; he is an agent for a filter; there are different kinds of filters. I couldn't say how many others there are.

1004 Q. No difficulty in obtaining them is there?
A. No sir.
Q. Do you remember the condition of things here in 1897 when they got a yellow-fever scare here, as to the hydrants, were they not opened generally all around?
A. Yes sir, I have seen them.
Q. Would you expect a pressure on say a twelve-inch main, to be maintained, if say ten, 12 or 15 hydrants, with two and a half inch nozzles were running open at full tilt?
A. Of course it lessens the pressure with those openings; it lessens

the pressure considerably, but I never heard of any complaints about the water not having pressure at the second or third story.

Q. How high do you remember, you had plumbed a building for water given by water-works pressure, prior to say January 1st, 1899; how far up have you carried it?

A. Well, in my opinion or judgment I should think it would rise about twenty or thirty feet and probably higher.

Cross-examination by Mr. FORMAN:

Q. Can you name some buildings that you have plumbed to the height of thirty feet?

A. Well, there are several buildings; I never made any memorandum of them.

Q. I ask you particularly to name some of them in order that I may call the parties here to see whether they get the supply?

A. No answer.

Q. You can't name one?

A. I know there is the new court-house & jail.

Q. Sir?

A. I worked on the new court-house & jail when I had to raise it there about twenty-five or thirty.

1005 Q. You were working for Manion & Co., then?

A. No sir I worked for the New Orleans Railway & Mill Supply Co.

Q. Oh; you are a plumber for the N. O. Railway & Mill Supply Co.?

A. Yes sir.

Q. Employed by them?

A. Yes sir.

Q. Well, the N. O. court-house & jail is the only one you plumbed to the height of twenty-five or thirty feet?

A. Yes sir, others I suppose I have done, but I never paid any attention, it has escaped my memory.

Q. You can't name another one?

A. No sir.

Q. You can't name a single private individual whom you have plumbed to the extent of 25 or 30 feet?

A. Not at the present time.

Q. You have no books or memoranda by which you could give me one?

A. No sir.

Q. The Railway & Mill Supply Co., is the concern that sells these filters is it not—I mean water filters?

A. We put them up.

Q. You put them up?

A. Yes sir.

Q. Do most of that business don't they?

A. Well, I can't say that, I don't know. Others I suppose puts them up also.

Q. How many meters have you put up?

A. I have never put any up. They have a man for that purpose. I never put one up. I never put a meter up.

Q. You never superintended the putting up of any?

1006 A. No sir.

Q. You never tested any of them?

A. No sir.

Q. You don't know whether they are accurate or not?

A. I couldn't say.

JOHN PONDER, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. How long have you been the engineer of the Charity hospital?

A. Since 1870.

Q. Do you know when I was administrator there of the installation of a tank in the garret of the main building?

A. Yes sir.

Q. Do you know about how high that is from the ground?

A. The tank in the main building?

Q. Yes.

A. Fifty-two feet.

Q. To the bottom or top of the tank?

A. The bottom.

Q. About how high is the tank do you remember it?

A. Three feet six.

Q. Where does the Charity hospital get its water supply?

A. City water mains.

Q. Do you remember about what time that tank was installed up there?

A. One of them I found when I went there, and the second one——

Q. I mean the new one? It was about a year after you went there, wasn't it?

A. 1871 or 1872—1871 I think.

Q. There was also another tank of about the same size up

1007 there on that same floor, was there not?

A. Yes sir.

Q. At the time that last tank was installed, how was the supply of water gotten up to those tanks?

A. Steam pumps.

Q. Do you remember the size of the pump that I installed there; I think it was there when you went there—a Blake pump.

A. Five and a half—seven and a half to ten.

Q. Was it necessary to use that pump to fill those tanks?

A. Yes sir, absolutely necessary.

Q. About how much of the day with the ordinary use of water, would that pump have to run to fill those tanks up there?

A. What length of time would it require to fill the tanks?

Q. Yes.

A. Take us about two hours—two hours and a half.

Q. During the time that the city owned the water works, and up to the time that the water works came in possession of the present company, was there ever a time when that tank was filled by the city pressure?

A. No sir.

Q. Was there ever a time during that period that you were not compelled to use steam to get the water up there?

A. Oh no.

Q. How many times since the water works obtained possession and managed the works—the water works company, have you been compelled to pump that tank?

A. Several times; I don't know how many.

Q. What was the occasion of the necessity?

A. During the long drouth we had here when there was a number of plugs opened on the street.

1008 Q. When the use of the water by the city was normal, was there any trouble in filling those tanks with the water-works pressure?

A. None at all.

Q. Will you tell us how you got that water up there—whether it passed through filters or not?

A. Yes sir, we passed it through filters. We have two tanks there. One for cleaned and one for dirty water.

Q. The dirty-water tank takes its water now directly from the main?

A. Street main.

Q. About what is the size of the filtered-water tank up there?

A. The filtered-water tank holds eighteen thousand gallons.

Q. How does the water get there?

A. Comes from the street mains into—through a filter and from the filter up into the tank.

Q. So that the pressure from the water works overcomes the height and the resistance of the filter?

A. Filter bed.

Q. What sort of filter have you got. What kind of a filter have you got?

A. We have the ordinary sand filter with about five feet of sand upon it,—Bommarius pattern.

Q. About what size; can you give us the size of the filter?

A. In fact we have two, one sixteen inches in diameter, and one fifty-four.

Q. How high would that structure be?

A. About seven feet one of them, and the other about eleven.

Q. Do they both operate on the clear-water tank upstairs?

A. Yes sir.

Q. You have also another tank in that building—in a
1009 building connected with that institution or near it—that is the Milliken memorial building.

A. Yes sir; we have an elevated tank there.

Q. Mr. Lwellyn who has been a witness here today, presented a photograph of the installation of that tank, which is an exhibit in the case, marked "Llwellyn 1," and he states that from the ground to the bottom of the tank, is sixty feet, and from the bottom of the tank to the top of the tank is fifteen feet additional. Do you recognize that as the installation?

A. Yes sir.

By Mr. FORMAN:

Q. Hasn't that been put in since January 1899?

A. This tank has been in use about eleven months—been filled, I mean. I don't know if it has been used.

Q. I say hasn't that tank been put in operation since January 1899, a year ago?

A. Yes sir, just about.

Q. The Milliken hospital has only been finished a few months?

A. Only occupied a few months; it has been finished quite a while; it has been finished about eight.

Q. It has only been occupied about two months?

A. Just about.

Counsel for plaintiff objects to any testimony about anything which occurred since the filing of this suit.

Q. Was that tank tested prior to the 1st of January 1899, by sending water up into it?

A. Yes sir.

Q. Prior to the 27th of January 1899, did you test that tank to see whether it would take water from the water works?

A. Yes sir.

1010 Q. What were your connections with the main running to that pipe?

A. Four-inch.

Q. From where?

A. From the street main.

Q. Which street, Gravier or Common?

A. Common street into the building, and then a three and a half from that up.

Q. On that test, did the pressure from the water works carry the water up there to fill the tank?

A. Yes sir.

Q. Is that tank still in operation?

A. Yes sir.

Q. Is that tank used for filtered water or water direct from the mains unfiltered?

A. Exclusively for filtering.

Q. Well then, the water to go up there, has to overcome the height*h* and resistance of the filter. What kind of filter is it?

A. Bommarius.

Q. What size?

A. Sixteen inches in diameter, about seven feet high, about four-foot bed.

Q. By four-foot bed, you mean four feet of sand?
A. Yes sir, four feet of sand.
Q. Does it pass up through the sand or down?
A. It passes down through it.
Q. Then up a conduit?
A. That's it.

Cross-examination by Mr. FORMAN:

Q. The bed of sand then is enclosed in a water-tight receptacle?
A. Yes sir, receptacle.
1011 Q. Requires no other pressure than the pressure given from the main?
A. Well, it would be too long—it would take us too long to depend on filling the tank from the main, from the top.
Q. You do use then—you do this then under pressure; you use pressure?
A. We have been using the street pressure direct to fill it, and keep it there occasionally; but, we don't find it advisable, because it would require too much time; we do the work in a quarter of an hour, where it would take us from four and a half to five hours to fill it from the street.
Q. You put a pump on?
A. We put a pump on, the structure is about sixty feet high, and there is a fifteen-foot tank on it, and it would be necessary to run it up seventy-five feet there to get it up.
Q. You have never tried it then, continually day after day without the steam pump?
A. Oh yes we have; we have tried it for about three weeks. It takes too much time.
Q. How do you mean it takes too much time, you have got the whole 24 hours before you?
A. The idea is, that we have to have a man there to watch one of those filters, and those filters are liable to run empty at any time whereas if we can shorten the time up, we can use this man for other purposes; we can use his services for other purposes, besides sitting there watching the filters; so in place of taking five or seven hours to fill that filter, we get it filled in an hour and a half. Up to three weeks ago we have filled that filter direct from the street main.
Q. What is the object of having a man to watch it?
1012 A. Because it is liable to go muddy on us and spoil all the water in the storing tank.
Q. He is there to watch it to see that it is doing its work of filtering?
A. That is what he watches, yes sir.
Q. How do you get rid of the mud?
A. We wash the mud out into the street, by washing the filter with the ordinary process of reversing the pressure and washing it up.

Q. Then when your man in charge of the filter, watching the filter, discovers that it is not doing its work, he then reverses the process does he, turns the water in the other direction?

A. Exactly; that is not necessary every time. Sometimes a filter is liable to break ten minutes after you have washed it. The bed is liable to break and give you muddy water.

Q. The filtering substance consists then of a simple layer of sand?

A. A bed of sand about four feet in height at the bottom of the receptacle.

Q. Is that all?

A. That is all.

Q. How often do you have to renew that sand?

A. Well, I have one filter working eight years. I was led first to believe in my experience of filtering, that it was necessary to change the sand, and I have one working eight years now, and I haven't changed it yet. I add to it. There is a little waste in cleaning.

Q. Some of the sand goes off with the mud?

A. Yes sir, if the circulation is very rapid with the high pressure, such as the recent water-works pressure is now, and the sand bed is carried a little high in the filter you are liable to get the
1013 sand bed carried over with the mud.

By Mr. BECKWITH:

Q. During the period prior to 1879, and after you became attached to the hospital, did you not do a great deal of plumbing for the hospital yourself?

A. Yes sir.

Q. Practically did it all, didn't you?

A. I did a large amount sir.

Q. Did you know the pressure then, or had reason to know the pressure that was carried by the city on the works there at that time?

A. Yes, I have an idea about it.

Q. Did you have any experience in wiping joints in a pipe without having to turn the water off?

A. Yes, done some of that too.

Q. It was not very difficult was it?

A. Well, if you had two or three outlets or a five and three-quarter pipe, then you could stand on a barrel and wipe the joints—take up enough pipe.

Q. In wiping a joint, you have to handle hot solder, that would give you trouble if there was a great deal of water around?

A. It is a very disagreeable job, Judge;—if any water comes around when you are wiping joints, in any kind of a cistern. You didn't have to give a man that job often.

Q. If you had an opportunity, wouldn't you?

A. I presume during that time the water works company experienced a great deal of trouble with stop-cocks. They were not used much.

Q. Were you in the hospital when I installed and put up the fittings of that first Blake pump?

A. Yes sir.

1014 Q. Do you remember my making a connection with the main?

A. Yes sir.

Q. Do you remember it was made without cutting the water off or not?

A. I do not.

Q. Did you ever have occasion to try to use the valve on Gravier street much—the supply valve cock to the hospital,—try to shut it?

A. Yes sir.

Q. Did you have much success in doing it?

A. No sir.

Q. Didn't it become necessary or expedient in order to keep the time of using steam in the hospital as short as possible, to afterwards install a larger tank pump?

A. Yes sir.

Q. I think that was installed while I was administrator there, wasn't it?

A. Yes sir.

Q. Do you remember the size of that pump?

A. Seven and a half, eight and a half, ten.

Q. How long did it take to pump up the tanks with that?

A. About one hour and a quarter.

EDWARD GLENNON, sworn for defendant:

By Mr. BECKWITH:

Q. What is your occupation?

A. Plumber, by trade.

Q. How long have you been doing housework in the nature of plumbing?

A. In the neighborhood of thirty-three or thirty-four years.

1015 Q. Did you do house-plumbing work prior to 1878 or 1879, while the city had the water works?

A. Yes sir.

Q. In what parts of the city did you do it?

A. Different parts of the city—all over the city.

Q. Was there not difficulty in getting water to the second story of most buildings, for water-closets, without some aid?

A. Yes sir.

Q. During those days what provisions were generally made for getting water up there, in case of a failure of pressure—pumps or what?

A. Well, we used to generally have tanks in the attic; at that time we did not have top cisterns, as there is now. We used to have a tank in the attic lined with lead, and we used to have pumps to pump up in those tanks.

Q. Anybody could then have his morning exercise by pumping up his supply of water for the day?

A. Well, they were also supplied from the roof.

Q. I mean the water-works supply?
A. Yes sir.
Q. Has that condition changed since the water works company got it?
A. Yes sir.
Q. The sale for pumps of that kind is pretty much over, isn't it?
A. Well, it has been so long now since I put up the pumps—never put them up in fact any more.
Q. At that time, were not the samples of the kind of pump used in nearly every gasfitter's window?
A. Yes sir.
Q. How high in your recollection, have you carried plumbing in these buildings since the water-works pressure was established, and got supplied from a normal pressure—how many stories?
1016 A. I have carried it up as high as three stories.
Q. What?
A. Got it up as high as the third story.
Q. Without any precautionary conditions of pumps or other appliances?
A. Yes sir.

Cross-examination by Mr. FORMAN:

Q. How old are you?
A. Fifty-two.
Q. Who are you working for now?
A. J. D. Burghardt.
Q. What business is he in?
A. Plumbing and gas-fitting.
Q. Where is his place?
A. Royal between Customhouse & Bienville.
Q. How long have you been working for him?
A. Going on four years.
Q. Who did you work for before that?
A. J. H. Aitken & Co.
Q. Can you give me the names of the houses in which you have carried water from the water works to the third story?
A. Well, I believe Dr. Loeber's is one place that has a closet in the third story; that was for J. H. Aitken & Co.
Q. Doctor Loeber?
A. Yes sir; now I wouldn't be positive, but at the same time I am certain there is one in the third story.
Q. Can you give us another?
A. I did not put the closet in, but there is another one where the closet is in the third story. I worked on it.
Q. That's what we want.
A. Mrs. Rathbone.
1017 A. Mrs. Rathbone on Esplanade street has one in her third story.
Q. Esplanade street?

A. Yes sir.

Q. Do you know the number?

A. I don't know exactly; I could not give you the number just now.

Q. Do you know her first name?

A. No sir.

Q. Can you give me any others?

A. No; well I don't know as I can call them off.

Q. You can't name any others?

A. I can't think at the present time of any others.

Q. Can you name any where the water works were carried to the second story?

A. Yes sir.

Q. Let's have some of them.

A. To the second story?

Q. Yes.

A. Well, there is Mr. Marquez, he's got one in the second story.

Q. Where's that?

A. He's on Esplanade street, a few doors the other side of—near Franklin.

Q. Anybody else?

A. Yes sir, Mr. Theard on Esplanade street; he has got one in his second story.

Q. Judge Theard?

A. Not the judge.

Q. You mean the druggist?

A. No no;

Q. The doctor?

A. Well, I don't know what his occupation is, but he is on
1018 Esplanade *Esplanade* street.

Q. What is the number?

A. I couldn't give you the number exactly. Mr. Gelpi right across the street has got one in the second story; he is on Esplanade street.

Q. Where does Mr. Gelpi live?

A. I believe he is 1333 Esplanade, right across from Mr. Theard's on the upper side of the street.

Q. Any others?

A. Yes sir, the fact is, I might say there is hardly a two-story house in this town of any size that has not a closet in the second story.

Q. I am trying to get at some that you know of?

A. I know of so many of them in the second story, that I can't give you all the name- now. I worked in one yesterday, Mr. O'Donnell, uptown corner of Peniston & Perrier, he's got one in the second story.

JOHN EDWARDS, sworn for defendant:

By Mr. BECKWITH:

Q. What is your occupation, or business Mr. Edwards?
A. A stationery engineer.
Q. How long have you been so?
A. About ten years.
Q. Were you ever an engineer at the Maginnis cotton mills?
A. I was first assistant at the Maginnis cotton mills.
Q. During what years?
A. Well, I was there in 1890, I believe and 1895 also. I left there in June.
Q. At that time had the non-condensing engine and condensing engine both been installed, and put at work?
1019 A. Yes sir.
Q. As assistant engineer, what were your duties?
A. Well, I had charge of the condensing engine, also looked out for the water supply to the boilers of the condensing engine.
Q. Where did you get your water supply for the boilers, from? From the hot well?
A. From the hot well, yes sir.
Q. About what temperature was the hot well generally?
A. Well, about one twenty to one twenty-two degrees.
Q. Where did you get your supply for condensing?
A. From wells.
Q. How many wells were there?
A. Well, we were connected, I believe, to three or four. Three we were getting water from,—the fourth one I don't believe we were getting any from.
Q. Had they installed the water-pressure device when you were there?
A. No sir.
Q. Do you remember the size of the piston of the air pump?
A. I think it was somewheres between thirty-four and thirty-six feet in diameter, by about twenty to twenty-two inch stroke.
Q. That engine pulled direct from the wells didn't it?
A. The condensing engine?
Q. The air pump?
A. Yes sir—no, we had an intermediate pump, down in the pit, pumping from the wells, pumping into the condenser; drawing from the wells.
Q. I know, but was not the condenser also attached to the wells?
A. No sir, they forced water into the condenser; the condenser was not a lifting pump at all.
1020 Q. If it was connected with the supply pump—what size pump did you have?
A. Oh, about fourteen by eighteen; I wouldn't be positive, it is so long ago.
Q. That was drawing out of these wells?
A. Out of the wells.

Q. And delivering into the condenser?

A. Yes sir.

Q. Did you take all the water the pump would pull out of the wells?

A. No sir, a great deal went to waste—overflow; through the overflow of the condenser we took all the water. We took all the water through the condenser.

Q. You took all the water through the condenser?

A. Through the condenser yes sir, but we didn't utilize all in the boilers.

Q. Sir?

A. We didn't utilize all of it in the boilers.

Q. I am now speaking of the cold water that you took from the well to send into the jet condenser. You took all the water the wells would give you, didn't you?

A. Yes sir.

Q. And then it went through, and went into the the hot wells—part of it was taken up for steam, and the other ran out into the gutter?

A. Yes sir.

ROB'T MCNAMARA Sr. sworn for defendant.

By Mr. BECKWITH:

Q. You are employed by the water works company?

A. Foreman.

1021 Q. What are your duties as foreman?

A. My business is to keep in repair fire-wells and fire-hydrants.

Q. And mains also?

A. And water mains.

Q. How long have you been engaged in that?

A. About five years.

Q. To what extent are you familiar with the distribution of the water works and the fire-wells?

A. To what extent?

Q. Yes, do you know them pretty well or do you know them at all?

A. Yes sir.

Q. I now exhibit to you a paper marked "Defendant's McNamara 1," and please state what it is?

A. That is a complete list of the distribution of fire-wells throughout the city?

Q. Is it a correct statement of fire-wells, their location and size?

A. Yes sir.

Q. You have examined this to verify its correctness as to the localities and public connections—these fire-wells?

A. Yes sir.

Q. Now, will you please take that paper and name to the stenographer the fire-wells on that list that were established by the city, and

those that have been established by the water works. Are you able to answer the question?

A. The new wells or the old wells owned by the city?

By Mr. FORMAN: I shall except to any testimony, unless what you know of your own knowledge, not what took place before you went there.

Q. Do you know the character of the wells that were con-
1022 structed by the city, were they the same or different from the ones constructed by the company?

A. Different.

Q. Were they distinguishable on examination?

A. Yes sir.

Q. How many kinds of fire-wells did the city use—some of them had names, didn't they?

A. Yes sir.

Q. Well, what kind did the city use?

A. They used what is called "the Old Young American" fire-wells, and the bottle type fire-wells; those are about the only two names that I know of the old style.

Q. Has the water works company installed any of that kind of wells?

A. No sir.

Q. You know the city distribution here very well, don't you?

A. Yes sir.

Q. In charge of it are you?

A. Yes sir.

Q. Are you able to distinguish the city installed wells to the wells having their origin after the company took charge?

A. Yes sir.

Q. Can you state what wells were of the old type, and what wells were used by the company?

A. Yes sir.

Q. Please state from that list?

A. Well, I will call off the old types first. Tchoupitoulas & Hunter; Peters & Race; Peters & Robin; Peters & Terpsichore; Washington & Magazine; Jackson & Magazine; Josephine & Maga-
zine; Magazine & St. Mary; Richard bet. Annunciation &
1023 Chippewa; Annunciation & Robin; Tchoupitoulas & Reli-
gious; Annunciation & St. Thomas; Felicity & Rampart; Felicity & Howard; St. Charles & St. Andrew; St. Andrew & Coliseum; Jackson & Carondelet; Tchoupitoulas & Poydras; Tchoupitoulas & Notre Dame; Tchoupitoulas & Delord; Julia & Camp; Julia & Front; Girod & Front; Front & Poydras; Front & Gravier; Front & Common; St. Charles & Commercial Place; Canal & Tchoupitoulas; Canal & Camp; Canal & Rampart; Claiborne & Canal; Common & Liberty; Decatur & Bienville; Decatur & Toulouse; Customhouse & Bourbon; Chartres & St. Louis; Decatur & Hospital; Esplanade & Frenchmen; Esplanade & Treme; Chartres & Elysian Fields; Dauphine & Enghien; Dauphine & Clouet; Dau-

phine & Piety; Rampart & Bourbon; St. Claude & St. Bernard; St. Bernard & Claiborne; St. Roch & St. Claude; Laharpe, Johnson & Galvez; St. Philip & Roman; Decatur bet. Elysian Fields & Marigny; those are old wells.

Q. Now the new ones?

A. Dryades & Euterpe; Tchoupitoulas & Thalia; Tchoupitoulas & Market; Tchoupitoulas & Felicity; Terpsichore & Front; Franklin & Clio; Peters & Erato; Coliseum & Felicity; Washington & St. Thomas; St. Thomas & Robin; Tchoupitoulas & Girod; Magazine & Lafayette; Poydras & Camp; Camp & Lafayette; Poydras & Carondelet; Peters & Clio; Peters & Calliope; Calliope & Franklin; Calliope & Annunciation; Magazine & Natchez; Magazine & Common; Magazine & Gravier; Camp & Gravier; Camp & Natchez; Carondelet & Gravier; Canal & Magazine; Canal & Camp; Canal & St. Charles; Canal & Carondelet; Canal & Baronne; Canal & Rampart.

I. BLENK, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. In what business were you engaged in 1887, 1888, 1889, 1890 & 1892?

A. Ice business.

1024 Q. In what establishment?

A. New Orleans ice works.

Q. Near the Leeds foundry isn't it?

A. Yes sir.

Q. From whom did you take your water supply?

A. From the city water works.

Q. Do you remember with what main you connected?

A. With the Poeyfarre street.

Q. Same main that the Maginnis cotton mills were attached to at that time?

A. I think so.

Q. Did you have any trouble there with water supply?

A. Yes, on various occasions.

Q. Well, what was it.

A. There was one season there I couldn't get any water at all—put a vacuum on the pipe, and once there was considerable trouble through the city; they cut the water off through the plugs, and I couldn't get it, and I appealed to the water works company.

Q. How high do you take water; do you pump through the coils above.

A. Yes sir.

Q. Well, how did that vacuum get in the pipe?

A. Well, I attributed it at that time to the Maginnis cotton mills.

Q. Did it occur when the Maginnis mills were running?

A. Yes sir.

Q. Did it ever occur during the night when the mill was stopped?

A. Yes sir, it was during that season they were flushing the city the water-works plugs were all opened.

Q. I refer to the vacuum business?

A. Sometimes there was a diminished pressure at night owing to fires etc.

1025 Q. Will you look at the letter I now hand you, marked "Defendant Blenk 1"?

A. Yes sir, I wrote that. I appealed for water; I couldn't get it all day long.

Q. You have also set an attorney on the works; that is got him to try——

A. I think I stated, I don't remember just the substance of the letter, but I believe just at that time the water works company were under contract. We were under contract with them for water, and of course we had to keep our institution going, and I insisted then that we would have to hold them liable for our works not running.

Defendant's counsel offer, and file in evidence letter marked "Blenk 1."

Q. What was the solution of that; did you get rid of the trouble with the Maginnis mills after that?

A. Yes, I had no trouble after that.

Q. Do you know whether or not the trouble ceased when another connection with Maginnis mills was given?

A. I know of no connection, but I know the trouble ceased right after.

Q. When Maginnis mills were running prior to this trouble—this interview with the company on the subject of low pressures, was your pressure low while this mill was running?

A. Well, I have always maintained about twenty-five pounds of pressure?

Q. When the Maginnis mills were running?

A. Yes sir.

Q. I mean prior to this time of undergoing your trouble?

A. No sir, I don't think we could carry more than about fifteen pounds pressure, something like that.

1026 Q. The difficulty was obviated I understand, shortly after you made this complaint?

A. Yes sir, I had no trouble after that.

Q. You do not yourself know how it was done?

A. No sir, I don't know it.

Cross-examination by Mr. FORMAN:

Q. You are still connected with the Poeyfarre Street main?

A. No sir, I am not working for the N. O. Ice Company.

Q. What had you to do with the company then?

A. I was superintendent.

Q. Who is superintendent now?

A. There isn't any, as it is not running, sold out.

Q. The concern isn't running?

A. No sir.

Q. What was the size of the main on Poeyfarre street?

A. Well, the branch we had at Bienville street.—I don't know what the Poeyfarre Street main is, I know the branch we had is four-inch, and then we reduced inside the factory to 3 & ½ inches.

Q. You reduced to three and a half inches inside the factory?

A. Yes sir.

Q. And you had a three-inch pump pumping on it?

A. We had worse than a three-inch, we had a duplex six-inch pump.

Q. You came pretty near taking all the water that could run through that main, couldn't you—through that pipe?

A. No, I mentioned about twenty-five pounds pressure. You see, in our system we don't use all the water,—we pump it and throw it out in the gutter, we utilize the water again, over and over, and the water is sprayed on the roof, and it cools, and we have another pump to take that back, and it collects, and we have another pump to take that water back on the roof again.

1027 Q. If your pump was run full power, you could pretty near exhaust that pipe yourself?

A. Oh no.

Q. What proportion of it would it take?

A. I don't exactly know what proportion it would take. I have never measured it.

Q. If you had had an eight-inch pipe there, you would have had plenty of water for you and Maginnis both, wouldn't you?

A. Probably would; I don't know the size of the mill.

Q. Your branch on Poeyfarre street was three and a half inches inside diameter?

A. No, the main in the street was four inches; it branched off in the pipe to three and a half, but I have taken out the valves several times, and I have notified the company, and we put a new valve on.

Q. Did you have a meter to measure the water you used?

A. We did, but never could keep it in order.

Q. What was the matter?

A. Got out of order.

Q. How did it get out of order?

A. Putting in the pumps and the dirt getting into it, sometimes got shrimp into it and sand, and whatever would come through the pipe.

Q. How long did you use the meter?

A. I couldn't exactly state how long; I think we used it a couple of months.

Q. What was your consumption of water?

A. I don't know; never figured it or measured it.

Q. What?

A. We never figured nor measured it.

Q. When you used the meter, the meter measured it?

1028 A. I didn't have anything to do with that; the boss attended to that.

Q. Who has the books of that concern?

A. I don't know who has the books now.

Q. What has become of them?

A. I don't know.

Q. Do you know how much per thousand gallons you were paying?

A. I do not. I know that we made a contract shortly afterwards.

Q. What was the contract?

A. Made a contract for five years at $1,000 a year.

Q. At $1,000.00 a year.

A. Yes sir.

Q. You don't know what you are consuming?

A. No sir, I do not.

Q. No method of getting at it?

A. No sir, we never paid any attention to that at all; because we utilized a portion of the water, and filter our water for the boilers. We condensed it again and used it over.

Q. So that there was only a small fraction of water ran away?

A. I know when we put the meter on we reduced it down to a two-inch pipe, and a two-inch pipe carried it.

Q. Why did you reduce it to a two-inch pipe?

A. Well the proprietor thought it would be best to reduce it to two inches, didn't want to pay for a larger meter, and didn't want to pay for a larger quantity of water under a large meter.

Q. Less water would go through a two-inch pipe wouldn't it?

A. Yes sir.

Q. And less water would go through a meter attached to a two-inch pipe than would go through the meter attached to a four-inch pipe?

A. Why certainly.

1029 Q. How much coal did you consume?

A. About sixteen loads a day—about sixteen loads in twenty-four hours, about fourteen and a half tons.

Q. You mean counting 1800 pounds to the ton?

A. To the cart-load.

Q. To the cart-load?

A. 1800 pounds to the cart-load, not to the ton. Ten barrels to the cart-load.

Q. And you consumed about sixteen a day of those?

A. Yes sir.

Q. You had a steam-engine there?

A. Used steam for generating gas, running pumps.

Q. What was the size of your engine?

A. Well, at one time we installed the engine and at another time took it out again and remodelled the plant; we had an engine there, twenty-four inches in diameter—steam cylinder, twenty-four by eighteen, but later on we worked it on the absorption system, done away with the engine.

Q. You mean twenty-four inches was the diameter of the cylinder?
A. Yes sir.
Q. And eighteen-inches stroke?
A. Yes.
Q. Was that the only engine you had there of that size?
A. We had two, we only ran one at the time.
Q. Both of the same size?
A. Yes sir.
Q. They were used both for pumping water?
A. No sir, for gas—ammonia gas.
Q. Then you must have had an engine to run your pump to keep the water up to the top of your building?
1030 A. We had a pump certainly.
Q. Your steam-engine ran a pump didn't it?
A. No sir.
Q. What ran the pump?
A. Steam ran the pump certainly; this was an independent engine entirely from the steam pump.
Q. You had in addition to these two engines a steam pump?
A. We had several.
Q. How many?
A. Four or five pumps.
Q. Will that quantity of coal run the pumps and the engines both?
A. Yes sir.
Q. How many boilers did you have?
A. Eight.
Q. What were their sizes?
A. I believe there is four of them, 72 inches by 14 feet by 13 & ½.
Q. What was your grate surface?
A. The grate had four-foot bars.
Q. Four feet each way do you mean?
A. Four by six feet.
Q. What?
A. Four by six feet.
Q. For each boiler?
A. Yes sir.
Q. Tubular boilers?
A. Yes sir.
Q. Were they of an improved pattern that had the least consumption of fuel—economical at least in its consumption of fuel?
A. What's that?
Q. Were they boilers of improved pattern which would
1031 give the best results with regard to the consumption of fuel?
A. No sir, wouldn't give the best results; ordinary tubular boilers
Q. The advantage in superior boilers is the diminished consumption of fuel isn't it?
A. What's that?

Q. I say the advantage in an improved system of boilers is on account of the diminished consumption of coal—take less pounds of coal to convert so many pounds of water into steam, is that it?

A. Yes sir.

Q. What is your idea as to whether or not an improved boiler or an improved steam-engine has any relation to the quantity of water that may be used relative to the horse-power of the machines?

A. I don't quite understand your question.

Q. I will put it in another form, perhaps you will catch my idea. What is the best quality of engine, or does the best quality of engine use a greater or less quantity of water in proportion to its horse-power than the inferior quality of engines?

A. Why certainly the best quality will consume less water.

Q. Why so?

A. There is less steam, and cut off closer.

Q. What would be the limits of variation in the quantity of water?

A. Depends upon the old fuel engine where she cuts off.

Q. What would be the limits of variation?

A. It is any variation. I couldn't tell you where it cut off.

Q. You mean that there would be more waste in the steam—more steam would escape?

A. Yes, they would use more steam.

Q. The further they travel, the more steam you would use?

A. Yes sir.

1031½ Q. In what is the largest quantity of water used; in a high-pressure engine—that which is used for condensing purposes?

A. I use more water in the low-pressure.

Q. Suppose you take a low-pressure engine, is there more used for the purpose of making steam, or for the purpose of condensation?

A. They use more water for condensation—for condensing.

By Mr. BECKWITH:

Q. When you speak of gas, of course you mean gaseous ammonia?

A. Yes sir.

Q. Your process was to compress——

A. Solidified gas.

Q. And then expand again?

A. Yes sir.

Q. Where was your condensation done in that concern?

A. We used to condense in the tanks, and we also condensed in the condenser on the roof into pipes. The gas solidified, and the steam would condense in the generators; we would pump the cold ammonia in the generators, and that would condense the steam, and that water would be brought back to the boilers again, steam boilers; therefore there would be no waste only a little leakage etc.

Q. Evaporation?

A. Evaporation.

1032 STATE OF LOUISIANA, }
Parish of Orleans. }

Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony and notes of evidence taken in open court, before the Hon. George H. Theard, judge, on the 4th day of January, A. D. 1900, on behalf of defendants.

JULES A. BLANC, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. How long have you lived in New Orleans?
A. For eighty years. I was born here, and always lived here.
Q. How many years is that?
A. Eighty years.
Q. Were you not at one time connected with the late Commercial bank that owned the water works?
A. No.
Q. You never were?
A. Connected with the Commercial bank? No.
Q. The full title of the bank was the Commercial Bank of New Orleans, that owned the water works—that established it?
A. No sir, never was.
Q. You were a resident of the city at the time that the works were established by that bank were you not?
A. I have always resided here.

1033 Q. Do you remember whether the pumping station on the river front near Richard street has been the pumping station of the works since they were installed?

A. I know very little of the water works; I had nothing to do with them, never had.
Q. I understand it, but you knew where the pumping station was, didn't you?
A. Yes, I believe so; in that neighborhood.
Q. Can you state whether it has been in the same place since it was installed in 1835 or 1836?
A. Well, I know so little about the water works, really I am afraid to say anything. I don't know much about them, never interfered with them, and never was interested.
Q. I understand it, but I am now asking you if the pumping station has not always been where it is now since the Commercial bank——
A. I can't say positively; I don't know anything about it.
Q. You have seen it sometimes?
A. Oh, I have seen it.

Q. How long ago did you first see it in that place where it is now?

A. A good many years ago.

Q. Was it in the thirties or forties?

A. I think so. Not being interested, of course I took very little interest in it.

Q. But it was a public institution?

A. Very well, I saw it there, yes.

Q. About how early do you think you saw it there first?

A. That is a good many years ago; thirty or forty years ago at least, I think.

Q. Do you remember seeing it there in the forties?

A. I couldn't swear to that; being so little interested made
1034 no impression on me at all.

Q. You knew of no other pumping station?

A. What?

Q. You have known of no other pumping station except that one, for water supply?

A. No, I never knew any.

No cross-examination.

J. T. AYCOCK, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. How long have you lived in the city of New Orleans?

A. I have been living here near fifty years.

Q. What has been your occupation during that time or business?

A. Live-stock trade.

Q. Do you remember the location of the first live-stock landing that you knew in this city?

A. Well, about the time I came here; it was moved from what was called the Bull's Head, up to the foot of Louisiana avenue.

Q. That was in 1850?

A. As well as I recollect.

Q. How long did it remain at Louisiana avenue?

A. Well, from 1850,—I think it was the 1st of January 1850. They moved up there somewhere along the first part of the year, and it remained up there until 1869, permanently, and then it was moved temporarily, and then went back; that is a portion of the people did, that was doing business there, and remained there, until, I think, 1870.

Q. What was the extent of the landing of stock there; large or small?

A. Well, from 1869 to 1870 there were but very few cattle
1035 around there, very few.

Q. I mean from the time it was organized?

A. Oh: All the cattle that came here was landed there from 1850 to 1869.

Q. Was there any butchering carried on near the river there?

A. Well, there was no slaughter-house on the river at all. There were slaughter-houses all over the city, that is, more or less of them *Principally though, in the fourth* district.

Q. I ask you if you remember whether there were any on the river front, in that vicinity?

A. No; there was none on the river.

Q. Were any of them discharging the offal or refuse into the river?

A. No sir, none of them; they carried it to the river.

Q. It was hauled and thrown into the river?

A. Thrown into the river, yes sir.

Q. Where? On Louisiana avenue?

A. No sir; Toledano street was a blood wharf, and they had another blood wharf in the fourth district; I would not be certain about that but I think so.

Q. What would be the character of offal that would be thrown into the river or at least carted from a butchery or slaughter-house?

A. In those days that I speak of, at the old landing, they never utilized any of the offal, such as horns and heads, and the blood and filth of slaughtering they hauled it all to the river.

Q. What disposition would be made of the excrament and other matters incident to cattle pens, or cattle stock yards. What was done with that?

A. That was carried off principally by the gardeners; and I have seen in fact where large piles had accumulated, schooners
1036 came from the Florida ports and were loaded with it.

Q. The vessels that brought the cattle there, what was done with the excrament and filth on the vessels?

A. The vessels would leave there very rapidly after they unloaded. I don't know what they done with it.

Q. You don't know that it was unloaded or dumped in the river?

A. No, I don't think it was. I have seen steamboats though, clear their decks there.

Q. It was not a very neat kind of a locality was it, as far as filth was concerned?

A. Well, they kept it very clean considering the business.

Q. Kept it clean by throwing it into the river I suppose?

A. Yes sir.

Cross-examination by Mr. FORMAN:

Q. At the time you speak of what you call the fourth district was the city of Lafayette, wasn't it?

A. It was at that time.

Q. That was in the parish of Jefferson?

A. No sir.

Q. The city of Lafayette was in the parish of Jefferson?

A. No sir.

Q. Louisiana avenue was in the limits of the city of Jefferson, wasn't it?

A. Yes sir, that's correct.

Q. And that was in the parish of Jefferson?

A. That was the parish of Jefferson, and the city of Jefferson that the stock landing was in, but the fourth district was called Lafayette.

Q. The city of Lafayette was at one time a part of the parish of Jefferson—Felicity road was the upper limit of the city of
1037 New Orleans?

A. Well, Toledano street was the line, when I——

Q. After Lafayette was annexed to the city of New Orleans in 1852, then it became a part of the parish of Orleans—the city of Lafayette, which used to be in the parish of Jefferson?

A. Yes sir.

By Mr. BECKWITH:

Q. The location of these stock yards and this point of dumping offal into the river, was it above or below the site of the present Stuyvesant dock and buildings?

A. It was just below.

Q. Just below?

A. Yes sir.

Capt. A. K. MILLER, sworn for defendant:

Direct examination by Mr. BECKWITH:

Q. Captain Miller what has been your avocation. Were you ever a seaman or master of vessels?

A. I was a seaman for about 22 years.

Q. In what character of vessels?

A. Sailing ships.

Q. Were you in sailing ships trading with the port of New Orleans?

A. Yes sir, I was.

Q. In sailing ships at that time, did they carry any condensing apparatus for producing their own fresh water on board?

A. They did not. In the latter part of my voyaging they did, but not first.

Q. What vessels—did vessels take in their supply of water here, at New Orleans, for sea voyages?

A. Always.

Q. You have taken it in frequently?

A. Yes sir.

1038 Q. Now what was the character of that water in the consideration of seamen who took it?

A. We used to consider Mississippi River water the finest in the world for sea-going purposes.

Q. Do you ever remember of having it to ferment on you?

A. Taking it on board in warm weather, going into warm waters of the Gulf, it used to go through a process—a kind of fermentation, by clearing itself; it sometimes would turn quite dark and blue,

and get charged with animalkulæ, like mosquitoes; it would clear itself then and would be perfectly clear.

Q. When taken in winter, was there the same trouble?

A. Not so observant in the winter time.

Q. Isn't that the process through which stored waters on ships all go through?

A. I have never noticed it with other waters besides the Mississippi. We used to consider that that was owing to the vegetable element that was in it. We always used to settle it before storing it for sea purposes.

Q. How long have you carried that water for use on the ships, on any one voyage—about how long?

A. Well, I have known it to be carried for ninety days.

Q. Do you know whether the Mississippi river was at times made a point of call by sailing vessels on their voyages to get water?

A. I have never heard of cases where they would come for water.

Q. You have never heard of it?

A. No.

Cross-examination by Mr. FORMAN:

Q. What process of settling did you take the water through, Captain?

A. Well, we used to carry our water in those days in oak casks, holding from one-twenty to one-sixty gallons. When we first
1039 arrived here we used to put two casks generally on skids, so that you could put a bucket under it. We used to spile them—called it spiling—part of the distance from the wooden chime. We would draw the water from the river, fill the casks, let them stand about forty-eight hours, draw them off, put them in sea casks, kept doing that until we got our water supply.

Q. And you would use nothing to settle it with?

A. No sir.

Q. Just let the mud settle at the bottom, and draw it off?

A. Draw it off, and then it would go through this process of fermentation.

Q. After you got it into the casks?

A. Yes sir; in warm weather, after we got to sea. Seldom noticed it in port, until we got out in pretty warm weather.

By Mr. BECKWITH:

Q. Were the casks cleaned internally every time they were used?

A. Thoroughly washed out, yes sir.

Q. With cold water or hot?

A. Cold water.

Dr. A. K. FINLAY, sworn for defendant:

Direct examination by Mr. BECKWITH:

Q. What is your profession or occupation?
A. I am a druggist, retail druggist.
Q. How long have you been so?
A. A little over 40 years.
Q. To what extent are you familiar with chemistry—chemical reactions and the science generally?
A. In so far as the requirements of my business demands—pharmaceutical chemist—some kind of chemist. Make no pre-
1040 tensions to be an analytical chemist.
Q. You have been connected however in the drug business however, largely with chemistry?
A. Yes sir, every day of my life, more or less; it is the necessity for the exercise of the science.
Q. How long have you been familiar with the source of water supply in the city of New Orleans, and the water of the Mississippi river?
A. Well, I have given it some attention, probably as far back as twenty-five years ago.
Q. How do you consider the supply as to quality aside from the sediment in it?
A. The visible impurities of course we set them aside in consideration. The soluble or invisible impurities are almost null; the amount is very small. There are some carbonates in it; there are sulphates and some chlorides, all of which show by chemical tests; but the amount is very small indeed. It seems wisely endowed, or apportioned with just enough to make it good and wholesome.—Portable water, when the visible impurities are removed.
Q. Do you know or have you discovered anything in the water that in your opinion would be deleterious to public health in the way of the impurities said to be of a class—ammonia and such matters? Nitrogunous matters claimed to be——
A. No sir, I have never known it to contain anything injurious to health. I have known men, and I, myself, have drunk the water unfiltered, and I have never found any injurious results coming from that source. I have for many years back had the water drunk at the house—water from the Mississippi river, until the unfortunate experience I have had with two members of the family with typhoid fever, which I believe was caused by their drinking rain water, since which time we have drunk no cistern water in the house.
1041 Q. As a matter of safety for drinking and culinary purposes, which do you consider the best, river water with its visible sediment removed, or the averaged rain water as needed and collected in the city of New Orleans?
A. There is so much uncertainty about the average rain water, that in selecting a specimen, you might get the very worst and the very best of it; I think it is open to objection; I don't think the rain water collected from the city of New Orleans is fit for drinking

purposes—at least in certain parts of it; it can't escape, and there is no means of escaping the filth that falls into it. It may be perfectly clear, but it contains the invisible and dangerous dirt. As for the black dirt that falls into the bottom it is comparatively harmless; it is the dirt that goes into the solution that is the lightning that smites.

Q. To what extent, if any, do you believe, taking the mass of the Mississippi river, the shipping along the front could contaminate the supply?

A. Well, Mr. Beckwith, that is a question of degree of amount; as a matter of course there is a portion of New Orleans, the water would go into the hydrant containing refuse from a vessel, and you would drink it, and it would be dangerous, but where the dilution would be so enormous, I don't see where the danger would come in, particularly as far as I know the material tendency around there of the river currents is outwards; the swirling currents carry everything out into the river. Where you have a rapid current there is a constant swirling, and tendency of the water of the river to go to midstream. In some places below Canal street you have an uptown current. From Bienville to Julia the tendency of the current is upstream, or rather up against the direction of the stream.

1042 Q. Is not the watershed of the Mississippi river say from the Yazoo down, extraordinary in its negative character—flow into the river.

A. In which?

Q. Its negative character of a flow into the river. Isn't it true that miles of the floor of the Mississippi River shed above us,—the watershed flow is away from the river?

A. At certain periods of the river when the level of the river is above the surrounding country, as in periods of high flood, naturally the tendency of seepage and flow would be from the river to the adjoining territory; but in the summer time it would be the other way.

Q. That would be a question of level wouldn't it.

A. Yes sir.

Q. Is it not true that these plantations run from a high level on the river back to the swamps?

A. Yes sir.

Q. That swamp water could not get in the river up that incline could it?

A. The ground itself does not run to the river because the surface of the river is lower than the swamp in the summer time.

Q. But the bank of the river is higher than the swamp?

A. Yes, but it is more or less purvious, and the water of the swamp would go through into the river.

Q. It would go through it filtered wouldn't it?

A. Yes sir.

Q. When the river is high and bringing down large quantities of sediment, mud, sand, clay, what quantities of sand have you found in a quart or a litre?

A. I have forgotten the exact proportion. I have not charged my mind with it. Sometimes it is a very considerable portion.
1043 I can't recall the exact weight now—something like half an ounce of dry material to a gallon,—or an ounce, at certain times. But, I believe it is very much modified by conditions. We often get a much thicker and larger amount of sediment from the hydrant, than at other times. Larger than the average, larger than can be found in the main stream itself, by deposit, and by the irregularity of its flow. A sudden draft of water through the hydrants will bring in a larger amount of mud than usual.

Q. The filtering process does not remove the albuminoids, does it?

A. Well, I think not, no; they are to some extent.

Q. What?

A. I imagine they would be to some extent, by the process of coagulation.

Q. The ordinary stone or sand filters do not remove the albuminoids do they?

A. No.

Q. Nor is there any certainty that it would remove the micro-organisms that are supposed to produce some species of fever, either?

A. That depends. It is asserted that a Pasteur filter will prevent the passage of any deleterious germs or any organism.

Q. I am speaking about the ordinary stone or sand filter.

A. Well, I think some of them where the dimensions of the cavities are less than one-twenty-thousand-s of an inch in diameter or something like that—very small.

Q. Have you ever measured the size of the micro-organism that produces typhoid fever?

A. No sir, I am not familiar with it. It does not come within the scope of my knowledge.

Q. Have you ever seen that icteroid?

A. I have seen so many of those represented.

1044 Q. I mean the one that produces typhoid fever?

A. No sir, I have not.

Q. It is publicly supposed to be entirely invisible to the naked eye isn't it, and can only be seen under a very powerful microscope?

A. Yes sir.

Q. The Pasteur filter is composed of porcelain tubes as a filtering material isn't it?

A. Yes sir, unglazed porcelain tubes.

Q. It is rather an expensive machine isn't it?

A. Yes, it costs money.

Q. Scarcely adapted for public use in filtering in large quantities?

A. No sir; the largest I have ever seen was one that would yield a thousand gallons a day.

Q. And that would cost how much?

A. About $300.00—$200.00 I think.

Q. About albuminoids, what do you mean by that? Do you mean organic—I suppose the counsel meant the source of albumi-

noid ammonia; that may come from large or small quantities of nitrogunous matter?

A. Vegetable products of all kinds. Any decomposition that could occur—matter that had not decomposed or had not passed into ammonia: It might be as big as a pea. It might be a fish or something that would be shut out by the filter.

Q. Anything containing albumen?

A. Yes sir.

Q. So that if the albuminoid ammonia resulting from the decomposition of shrimp or fish or anything of that kind—the source of that ammonia would be cut out, if the filter took the fish out, would it not?

1045 A. The source would be excluded in that way; but, you must expect in the decomposition of such material that more or less of that would go into solution?

Q. It would go into solution largely in the form of ammonia?

A. Well, largely with its combinations—with its chemical combinations, which could be broken up by superior alkaloidal power; for instance lime will indicate the presence of ammonia in such cases.

Q. And if you found ammonia you would infer that there had been some nitrogunous matter decomposed?

A. Yes sir.

Q. You would find the ammonia in solution in the water?

A. The ammonia would be liberated then by the new agent you employed.

Q. Do you recollect the specific gravity of anhydrous ammonia at Fahrenheit 60?

A. It is somewhere in the neighborhood of $\frac{8}{10}$ths.—$\frac{8}{100}$ths.

Q. Compared with what? With the water?

A. The anhydrous ammonia?

Q. Yes.

A. It is light, but I can't give you the figure right now.

Q. It is a gas isn't it?

A. It is a gas, liquified gas, but under pressure or lower temperature, it becomes liquid.

Q. When you speak of eight something, what do you mean?

A. I speak of the anhydrous ammonia in its liquid form.

Q. There is no ammonia in liquid form, except under compression?

A. Under compression and low temperature, yes.

Q. I ask you if you can tell me, or remember, the specific gravity of anhydrous ammonia at sixty degrees?

A. Of anhydrous ammonia?

1046 Q. Yes.

A. It would be much less than that of air, for the reason you take the air of the atmosphere oxygen being one and hydrogen being three the hydrogen being cast off, the volume will necessarily be much less than atmospheric air; just as steam would.

Q. In proportion to the excess of hydrogen?

A. Yes sir.

By Mr. FORMAN:

Q. The ammonia is largely soluble in water?
A. Yes sir, it mixes with water freely.
Q. You get very strong solutions of ammonia in water?
A. Yes sir, there is strong solutions.
Q. The ammonia that you sell in bottles is a solution of ammonia in water?
A. Yes sir, supposed to be a solution of anhydrous ammonia, ten per cent.
Q. Ten per cent., and what portions of water?
A. One part of anhydrous ammonia, and nine of water.

By Mr. BECKWITH:

Q. By weight or measure?
A. By weight.

W. G. COYLE, Esq., sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. How long have you resided in the city of New Orleans?
A. Over fifty years, more than fifty years.
Q. What business have you been engaged in during that time?
A. Since manhood I have been engaged in the coal business.
1047 Q. What is your age, if you please?
A. I am sixty-four.
Q. Where was the coal landing at the time you first began business—barge landing?
A. That was in 1856 at the foot of Julia street—Julia and Calliope street.
Q. Was it afterwards moved uptown?
A. Yes sir.
Q. Where?
A. High uptown.
Q. How high uptown did they go?
A. At the present time it is between Race and Robin.
Q. When do you first remember having seen the pumping station near Richard street by which the public water supply is pumped?
A. When did I first see it?
Q. Yes.
A. I wouldn't like to say, because it is a good long time ago; it is over 50 years I suppose; 40 or fifty years.
Q. Has it always, since you knew it, been in the present locality?
A. Yes sir.
Q. Will you tell us, if you can, about what year you first knew it there?
A. I couldn't designate the year. I remember it as a boy; I used to play around there when I was a boy, say ten to fifteen years.

WM. MEHLE Esq., sworn for defendant:

Direct examination by Mr. BECKWITH:

Q. How long have you resided in the city of New Orleans?
A. Fifty-six years.
Q. What business were you engaged in in the sixties and seventies?
1048 A. Hides and wool.
Q. Were you the purchaser of hides, locally slaughtered—cattle?
A. Yes sir.
Q. Do you know where the stock landing was from 1850 to 1870?
Mr. FORMAN: I will admit that the gentleman will repeat everything that Mr. Aycock said, and will repeat everything that Mr. Aycock said was true.
Q. When do you first remember to have seen the water-works pumping station?
A. As a boy.
Q. Same place it is now?
A. I think so.

No cross-examination.

THOS. J. MOULIN, Esq., sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. What relation are you to the board of fire commissioners?
A. Secretary.
Q. A writ was issued to obtain from your board data relative to the capacity or guaranteed capacity of the steam fire-engines in use in the department; have you brought it along?
A. Yes sir.
Q. In what shape is that?
A. In the ordinary contracts and specifications.
Q. Have you got it in any other shape,—any tabulation?
A. Well, I have in a brief form the capacity of first-class engines, second-class engines, and third-class engines.
Q. Have you a tabulated form of the capacity of the engines that you use here?
A. We have them in a contract, and we have here in our annual report, which gives the size of the pumps, boilers and certain
1049 other dimensions. But, they are not as complete in detail as the contract itself.
Q. How many engines have you now?
A. We have twenty-eight engines including the self-propelling engine, which we recently purchased.
Q. Can you, from those contracts, by examining those contracts, state to us, as to which engine—each engine, what it is guaranteed to throw or to handle in the way of water, for the extinguishment of fires in a given time?

A. Here is a form here; we have so many first-class engines; we have so many second-class, so many third-class. Here is a tabulated form for instance for the first-class engines. You see here, the capacity would be 2 & $\frac{45}{100}$ths., gallons per revolution for a first-class engine; that gives the size of the pumps, boilers and so on. That is, every first-class engine, and these would be for all ordinary first-class.

Q. How many first-class engines have you got?

A. We have four of the Metropolitan class, what they call extra first-class.

Q. Have you got any data as to what steam pressure they carry?

A. No sir, I could not give you any information in that regard. The chief engineer could.

Q. Have your first-class engines got names or numbers that you know them by?

A. Yes sir, numbers.

Q. Take your first-class No. 1 I presume it is?

A. The first-class engines would be Nos., 1, 2, 5 & 7.

Q. Well, can you tell us what those engines are guaranteed to throw with a given length of hose?

A. No sir, I couldn't give you that information; that is
1050 entirely in the hands of the chief engineer and his assistants.

Q. We have had engineer after engineer here, and they know nothing about their engines. Have you got any data anywhere in your possession that will give the amount *if* water that any one of your engines will throw, with a given amount of hose?

A. That data could be gotten up sir.

Q. Say with three hundred feet of hose?

A. That could all be gotten up in a very short time.

Q. In your department?

A. Yes sir; you see the chief engineer is in charge of the fire department, and the board of fire commissioners are almost entirely separate. I have nothing at all to do with fire affairs.

Q. Is the board of fire commissioners dependent on the chief, or is the chief dependent on the fire commissioners for his position?

Mr. Forman objects on the ground that that is a question of law.

Q. The chief depends upon the board of fire commissioners.

Q. Does not some rule or regulation of your commission require the chief or somebody else to deposit in your archives the condition, character and capacity of every one of the engines?

A. Yes sir.

Q. Does he do it?

A. That is all contained right here sir, in the original contract.

Q. Will you take the contract for your first-class engine, No. 1, and tell us what it is by that contract?

A. That information could be gotten up in a very short time, because an engine—it is never known what it can do until tried and accepted; and I dare say, the chief has that of record. I will consult him when I go up to the office, and I think between us we can get up that data.

1051 (Answer continued:) You want to know the distance it throws, and the amount of water per minute, and so on?

Q. I want to know the amount of water it will throw under several conditions. First with a three-quarter nozzle, an inch nozzle, an inch and a quarter nozzle, and with fifty feet of hose, and so on up to three hundred.

A. All right sir.

Q. Because the conditions will change with the length of hose?

A. Yes sir.

Q. Can you get that for us and have it here by Monday?

A. Yes sir.

Dr. J. D. BLOOM, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. You are house surgeon of the Charity hospital, are you not?

A. Yes sir.

Q. And how long have you been house surgeon, or otherwise connected with that institution?

A. Thirteen years sir.

Q. From what source do you get your water supply?

A. City water works. N. O. Water Works Co.

Q. Has that been the case during the whole time that you have been there?

A. Yes sir.

Q. You are estimated to use at least, fifty thousand gallons in that building, do you use that much?

A. We use on an average about eighty-five thousand gallons.

By Mr. FORMAN:

Q. In what time?

1052 A. We use it for surgical purposes; cooking purposes; laundry purposes and bathing purposes.

By Mr. BECKWITH:

Q. Do you use it in the amp-itheatre?

A. Yes sir.

Q. You ought to be pretty familiar with the water?

A. Yes, we use it exclusively.

Q. How do you consider it as water?

A. In what way?

Q. Good or bad?

A. Good water sir, I consider sir; we filter it and consider it good after filtering, for the purposes that we use it.

Q. Have you ever known of any trouble in the hospital, in the way of ailments, sickness or disease that you could attribute to that water supply?

A. No sir.

Q. A part or portion of your installation for water supply there is connected with a filter isn't it?

A. Yes sir.

Q. Do you have any trouble in maintaining the supply of filtered water that you require there?

A. No sir.

Q. That water is used not only in the main building, but in the others is it?

A. Yes sir, in all of the buildings.

Cross-examination by Mr. FORMAN:

Q. Is it pumped up Doctor?

A. Well, in one of the tanks it is; we have three tanks of fifteen thousand gallons each. In the Milliken it is pumped up, but in others they use the water-works pressure through the filters on the tanks.

Q. In the Milliken you say, it is pumped?

—. ——.

1053 Q. Isn't the pump used also in the others?

A. No sir, very rarely. Occasionally however, I believe, when the plugs are opened.

Q. What?

A. Occasionally I believe, when the city plugs are opened, they are compelled to; but in the majority of cases they use the filters on those tanks.

Q. Do you know the size of the pipe in the street that supplies the hispital?

A. I am not sure of that sir; I don't know exactly the size of the pipe.

Q. You don't use the water unfiltered for surgical purposes?

A. No sir.

Q. Would you recommend the unfiltered water direct from the hydrant to people to drink as an habitual thing?

A. Well, I have always regarded it as good water.

Q. Unfiltered with the sand in it?

A. Yes; of course it is preferable filtered, because there is a certain amount of deposit?

Q. Sir?

A. It is preferable filtered. I wouldn't recommend it where filtering can be done—its continual use unfiltered.

Q. People accustomed to drink the unfiltered water, doesn't it produce derangements of the bowels?

A. I have never heard of it sir, except where the water is taken from some sewerage vicinity.

Q. You think the sand and clay in it is not deleterious to it?

A. No sir; it is rather beneficial to it by oxygenation.

Q. Did you ever ascertain the amount of solid matter in a quart of water when the river is high and muddy?

1054 A. I think we have sir, yes sir.

Q. What is the quantity you found?

A. Varied from a half to one and a half per cent., I believe the deposit.

Q. In weight or bulk?

A. In bulk I think it was. It was some time ago we carried on some experiments with it; my mind is not perfectly clear about it just now. It has been some time ago, and we investigated the water supply just prior to the erection of our amp-itheatre.

Q. What time of the year was it?

A. It was in the spring I believe.

Q. When the water was at flood—high?

A. Yes sir, I believe it was.

Q. What weight of solid matter did you find in a quart or gallon?

A. I don't remember exactly Mr. Forman; I think at the time we averaged it from a half to one and a half per cent. by bulk.

Q. Between a half and one and a half?

A. Yes sir.

Q. It is a good big margin isn't it?

A. Yes sir. It is a margin, but those investigations were at different times. I don't remember the times they were averaged.

Q. When the water has been settled for a while, it is much less?

A. Yes sir.

Q. I am speaking of it just as it comes from the river?

A. I don't remember it clearly sufficiently to make an absolute statement.

Q. Have you any data of the quantity?

A. Of the quantity?

Q. Have you any data, is it accessible?

1055 A. I did have it; I don't know whether I have misplaced it or not.

Q. About how many gallons of filtered water do you use?

A. We use about fifty or 60,000 gallons.

Q. A day?

A. Yes sir.

Q. Out of the total eighty-five?

A. Yes sir.

Q. What do you use the unfiltered water for?

A. For cleaning, for flushing and washing the yard.

Q. Your sewerage is all washed out with it, isn't it?

A. Yes sir; we used it for flushing the sewerage.

Q. The sewerage is all washed out into a special sewer pipe for the hospital isn't it, or pumped out?

A. Yes sir, we have a relay of tanks for flushing—sewer tanks in the different parts of the yard space; they accumulate water, and the pipes are flushed from these tanks.

Q. You don't use the unfiltered water for either drinking or surgical purposes, anywhere else do you?

A. No sir.

By Mr. BECKWITH:

Q. As to that Milliken building tank, Mr. Ponder testifies that the water will flow up there, but that they use a pump in order to ex-

pedite the filtering process and get that tank full quicker. Do you know anything to the contrary?

A. No sir, I do not; Mr. Ponder, I guess, would be more accurate in that matter. As a rule he has a pump pumping up there.

Dr. WATKINS, sworn for defendant.

Direct examination by Mr. BECKWITH:

Q. What is your profession sir?

A. Physician.

1056 Q. How long have you practiced that profession?

A. Since 1868.

Q. Have you ever had any relation or connection with any of the sanitary organization or departments of the city of New Orleans, and if so, what?

A. From 1877 to 1883 I was sanitary inspector of the city of New Orleans under the board of health. From that time to about 1885 I was the sanitary inspector of the New Orleans Auxiliary Sanitary Association. After that time I became chief sanitary inspector of the city of New Orleans, and held that position until 1889 when I was elected a member of the board of health.

Q. During all that experience what extent was your attention called or given to sanitary conditions, as to water supply, and other purposes of the city of New Orleans?

A. The water supply of New Orleans in all its various phases was one that occupied a great deal of my attention. I not only took up the question of the source of water supply, but the qualities of its supply.

Q. Do you believe the water supply of New Orleans taken from the Mississippi river is a good source of supply, and will provide a suitable, proper and healthy supply for a city?

A. I believe it is the best available water supply New Orleans has, or can have.

Q. Will you give us your reasons if you have any, and the extent of your investigations, or consideration of the subject?

A. New Orleans receives its water supply from three sources, rain water as collected in cisterns, deep wells, and wells of varying depths dug in our subsoil, and from the Mississippi river. I consider the well water, obtained at no matter what depth, is an undesirable water; it is not a portable water under any circumstances.

1057 Cannot be considered portable. The cistern supply is one derived entirely from rainfall, and receives the washings from roofs on which have accumulated dust and debris of every possible quality, and that is washed into these receptacles where the water is stored, and is an undesirable water. It is only after undergoing a condition of fermentation that it is at all a desirable water, and just about the time that that condition is obtained a rainfall sets in again and disturbs the water again, and that process is kept up still. It contains very large amounts of organic and inorganic matter, and it is nothing unusual when drawn from the faucet, to

see insects, without the aid of any magnifyers. I consider the Mississippi River water the most desirable that is available, but of course containing as it does, a large amount of silt, it is objectionable on account of its appearance, more than anything else.

Q. Have you when abroad, considered, or examined the water systems of supply of other countries and cities?

A. In almost every city in Europe of any consequence, I have examined the water supply. Especially the water supply of London, the water supply of Edinborough, the water supply of Berlin, the water supply of Vienna and the water supply of Paris.

Q. In your opinion, so far as the condition surrounding the source of supply is concerned, how does the Mississippi river as a source of supply in New Orleans compare with the source of supply in the cities you have named as to danger of contamination?

A. If you take London for instance, and take the water supply furnished by the Thames, and the water supply furnished by the Mississippi river here, and consider the watershed, and the proximity of the various objectionable substances that flow into the Thames, I should consider the water supply from the Mississippi river, superior. Although the sanitary commission that in-
1058 vestigated the water supply of London, does not hesitate to state that one part of sewage, mixed with twenty volumes of water, flowing at the rate of twelve to fourteen miles per hour is completely oxidized so as to make it pure water.

Q. Do you remember the estimate of the number of people who reside along the watershed of the Thames?

A. About one million sir; about twenty-five hundred square miles is the watershed of the Thames, and it contains about 1,000,000 population.

Q. What is the extent of the watershed flowing into the Mississippi river below the Red river, here?

A. I consider very little supply is received into the Mississippi river below the Red river; all of it flows away from the Mississippi after it gets below the Red.

Q. Did you find in Europe any like condition of so long a flow without a watershed delivering into it?—Did you find any like condition existing?

A. No sir, there is no such condition furnished by any city nor by any stream.

Q. Does it probably exist anywhere else in the world?

A. No sir.

Q. Now the watersheds that supplies the city of Paris, did you take that into consideration?

A. Only in regard to the quality of the water there. The water supply of Paris, while a very beautiful water, is a water which fluctuates quite largely in nitrites and nitrates.

Q. A part of the source of supply there is the upper Seine, isn't it?

A. Yes sir, it is; a great portion.

Q. That has a large watershed—populated watershed, has it?

1059 A. Yes, very densely populated watershed.

Q. In the case of Berlin—I think you named Berlin?

A. Yes sir.

Q. The water is there taken from the river——

A. It is a very fair water supply. It is very often turbid and requires settling.

Q. Do you remember whether it is taken from the river?

A. Yes sir.

Q. That is also a densely populated watershed?

A. Yes sir.

Q. And populated very near the city isn't it?

A. Yes sir.

Q. Will you state as to the other cities where you examined them, as to the general source of the water supply?

A. The greatest condition that I noticed in the water supply of the different cities in continental Europe and in England, was the relative amount of hardness of the waters, rather than any impurities. The waters are quite generally pure, not containing enough of the nitrites or nitrates to render them unwholesome at all. In fact, I think nitrites and nitrates are bugbears more than anything else. I consider the surrounding of the water supply, more than I would the kind and quantity.

Q. I ask you relative to the watersheds, of the source?

A. Europe is so densely populated that it is impos-ible to obtain a water supply without more or less contamination of the water from its original source of supply.

Q. The probably contamination of water, flowing from a watershed, would it increase under a high state of cultivation, with fertilizers over that of a natural wild condition?

1060 A. Yes sir.

Q. Is it not true that the ordinary fertilizers get their value largely from the amount of nitrogen in them?

A. From nitrogunous matter, yes sir, the ammonia.

Q. Nitrate capable of fermentation?

A. Yes sir.

Cross-examination by Mr. FORMAN:

Q. Did you ever make and qualitative and quantative analysis of the waters of the Thames above London?

A. No sir.

Q. Or the water supplied to the city of Berlin?

A. No sir, I never made any analysis. I have only taken the investigations of the authorities over there; the sanitary authorities.

Q. Have you ever made any such analysis of the water of the Mississippi river taken from the hydrants?

A. I have witnessed them sir, I never made any.

Q. Who has made them?

A. Mr. Keppler has made them; Dr. Albrecht has made them.

I was very much interested in my connection with the board of health, in that matter, and witnessed the experiments.

Q. Did you ever see Dr. Metz's analysis?

A. Yes sir; I have read the result of his analysis. I have seen Dr. Metz's report.

Q. Has he a high reputation in his profession?

A. Yes, he has a good reputation.

Q. Taking his analysis for true, do you think the water he analyzed was wholesome?

A. Well, I think that he analyzed several specimens of water, especially near the sewerage openings, that were not whole-
1061 some. Down here near the custom-house, near the entrance of the custom-house sewer pipes; they were not wholesome.

Q. I am speaking about his official report to the city council, as city chemist, of the water that he took from the hydrants?

A. Yes, I would consider the water wholesome.

Q. Is that according to the standard of the sanitary authorities?

A. The water seemed to contain rather more ammonia than was considered to be a wholesome, but whether that was due to vegetable origin——

Q. What?

A. If due to vegetable origin, I would not consider it unwholesome; I would consider that organic matter is only unwholesome when it is in process of disintegration. After it has once disintegrated and ultimate particles have been formed, the carbon, oxygen, nitrogen, and hydrogen—I consider it is not unwholesome at that time. It is only during the process of decay that it is unwholesome.

Q. Have you knowledge of any facts to indicate that the impurities found, were the result of vegetable rather than animal decay?

A. I should think so; I have every reason to believe that the most of the organic matter in our river is due to vegetable matter. The heat of our summers, the formation of algæ at every possible point along our river front, would lead me to believe that it would be mostly due to vegetable origin, rather than animal matter, and the fact that we received no water supply from any large stream nearer than the mouth of the Red river.

Q. Are you acquainted with Professor A. R. Leeds' report on water supply of the city of Wilmington for 1882?

A. Who?

Q. Professor A. R. Leeds?

A. No sir; Wilmington, Delaware.

Q. Wilmington, Delaware?

1062 A. No sir.

Q. Are you acquainted with Mr. Winklin's standard of organic purity?

A. I know of his analysis, yes sir. He is considered an authority on water analysis. He is one of the pioneers.

Q. Do you agree with him in his conclusions?

A. Well, it would be very--I do not consider that I am an

author-*yt*. I have no right to disagree with him sir; he knows so much more about those matters than myself, that it would be——

Q. Are you acquainted with Parks' Hygiene?

A. Yes sir.

Q. Is that a standard authority?

A. It is.

Q. Do you agree with Mr. Parks?

A. I think that Mr. Parks in his deductions is almost universally correct. He is one of the authorities; he is, I may say the authority from whom all of these water analyists derive their information. He describes the methods of investigation probably better than any one else.

Q. Did you ever make any analysis of Mississippi River water, with Noessler's test?

A. No sir, I have witnessed the test; I am perfectly conversant with the chlorometric test, and the other methods of discovering the chlorides and other impurities of water—organic and inorganic. But I have never made any tests myself. I considered that other hands were more capable, and I have been rather a witness than an investigator.

Q. When the river is high, and the water muddy, what percentage of mud is found in Mississippi River water?

1063 A. The amount of silt in river water varies from seven hundred grains—I think about the extreme limit—100 or 120 grains to a gallon.

Q. Silt consists mostly of sand and clay doesn't it?

A. Yes sir.

Q. And usually more sand than clay?

A. It is a very fine—there seems to be a coloring matter which stains the water, which is a kind of—I don't remember exactly *in* geological term for it.

By Mr. BECKWITH: Kaolin?

A. Yes, kaolin.

By Mr. FORMAN: That is another word for "clay"?

A. Yes; it is a cilicate of aluminum, and that is colored by probably some of the iron salts, and *al*most of the discoloration of Mississippi River water, is due to inorganic matter, and not organic matter.

Q. Do you regard clay and sand as wholesome things to be taken into the human stomach, unaccustomed to it?

A. I do not consider that the taking in small quantities—I have never seen any bad effects by it; I have been using river water for nine or ten years absolutely on my premises to the exclusion of any other water, and we have occasionally drunk it unfiltered. My filter has gotten out of order and I have never seen any bad effect from it.

Q. You have a filter there, ordinarily, for ordinary use.

A. Oh yes, I have a filter for ordinary use.

Q. Have you ever tried to drink it month after month, and year after year without filtering it?

A. No sir; I would consider that there might be a mechanical

irritant from the finely divided clay; but, I think the recu-
1064 perative power of nature, would help us even there.

Q. What is the effect of eating dirt, on young children?

A. It produces an anæmia *anemia*.

Q. Dirt-drinking would come to about the same thing?

A. I have never seen any results to justify me in an opinion with regard to the matter.

Q. Has your medical experience been among the people who habitually drink the Mississippi River water?

A. No sir, my experience has been among those who drink the cistern water. I find that a very small proportion of the population of New Orleans drink the river water.

By Mr. BECKWITH:

Q. There seems to be a grave apprehension on the part of counsel on the other side that the intestines of the next generation may be abraded by sand and grit in the Mississippi River water; ought there not to be some solicitude or a greater one, for raisin seeds, orange seeds and a thousand other seeds, in the various things we eat, which have to grind *their* way through a long distance of intestines?

A. Yes. I should think that other things are far more injurious than sand, to go into our intestinal apparatus.

Q. You never heard it contemplated in any system of conservation of public health, to take the seeds out of currants, oranges, raisins, apples and all the other things that have sharp abraisive forms, or germs that the gastric juice won't touch?

A. Never. No sir, the question came up in my mind as to which was the most available water supply of New Orleans, and I have given the matter a great deal of consideration, and I have thought over all possible plans of getting it from our streams across the lake, and from any other source possible, and after giving this matter a great deal of consideration, I believe the most available water
1065 supply of New Orleans, and the only available water supply is the Mississippi river.

Q. I am calling your attention to another matter of grave importance to the present and next generation. Is it not true that the sediment of the Mississippi River water, as it generally comes down by deposition, has a slippery lubricating *defect* or touch on account of the kaolin in it?

A. About the time it reaches New Orleans it is so finely divided that it is held in suspension for weeks and weeks after you put it in a bottle and keep it perfectly still.

Q. But it does go down, and when it does go down, isn't it safe?

A. Yes sir; it is generally so finely triturated, that it is not——

Q. Which, in your opinion would be the most liable to abrade the mucuous membrane of the intestines or viscera and cause troubles coming from mechanical abrasion—the sediment of the Mississippi River water, or orange seeds, cherry spits and that sort of thing that would have to make the trip?

A. I should think that these larger particles would ir-itate more.

By Mr. McLoughlin:

Q. Have you ever seen the inside of a water meter?
A. I don't believe I have.
Q. It has been stated that that gets abraded by the sand in the water. Do you think that is more delicate, or less delicate than the stomach or intestines?
A. Did you ever see a glass etched by a sand blast?
Q. Yes.
A. When you can take a pretty muslin handkerchief, and hold it between the sand and the glass, and not abrade the handkerchief, and yet abrade the glass.

Q. What is the difference between the inside of a meter,
1066 and the inside of a stomach?.

A. That is a very curious thing, ain't it, that you can take a little muslin handkerchief, and put it over the glass in front of a sand blast and abrade the glass, and yet not abrade the handkerchief.
Q. It is a mysterious thing that sand will abrade the glass and not abrade the handkerchief?
A. Yes.

By Mr. Beckwith:

Q. It is a mysterious thing that rouge will polish, isn't it?
A. Yes sir.

Dr. E. S. Lewis, sworn for defendant.

By Mr. Beckwith:

Q. Doctor, how long have you lived in the city of New Orleans?
A. Since my birth, 1840.
Q. What is your profession?
A. Physician.
Q. How long have you followed the practice of that profession in the city?
A. I graduated in 1862 in the city. After the close of the war. I don't know how many years it is, 1865 to 1899.
Q. Have you, during your practice, discovered or diagnosed any ills or diseases as having their origin in Mississippi River water, furnished as a public water supply?
A. I have treated bowel complaints, bowel disturbances among those not accustomed to the use of the water.
Q. That would be likely to occur on any change of water, having different degrees of hardness would it not?
A. That is my belief sir.

Q. Did you ever drink the water yourself?
1067 A. I drank the Mississippi River water unfiltered all my life, until I graduated, or rather until I was an intern in the hospital in 1859.
Q. Did you receive any inconvenience from it, or did it develop any physical ills that you know of?

A. I was never sick in my life sir, up to the age of adult life.

Q. Do you consider the Mississippi River water a good supply for public service aside from the sediment in it?

A. I consider the Mississippi River waters one of the best waters that can be drunk.

Q. That is when the silt and sediment is deposited.

A. That is when the sediment is removed.

DAVID G. BALDWIN, Esq., sworn for defendant:

Direct examination by Mr. BECKWITH:

Q. You reside in the city of New Orleans?

A. Yes sir.

Q. Do you know Dr. Geo. K. Pratt?

A. Yes sir.

Q. Was he ever at any time your family physician?

A. Yes sir.

Q. Attended any of your family in any illness?

A. Yes sir.

Q. Did he ever make any recommendation to you as to the character of water you should give any invalid member of your family to use? To drink?

A. He did sir.

1068 Q. When, and under what circumstances?

A. Last May Doctor Pratt, who was our family physician was called in for one of the children that was taken sick with a slow fever that lasted several weeks, and the doctor feared it might be some typhoid systoms and asked what kind of water we were using, and we told him we were using distilled water at the time, and had been using it for two months, simply as an experiment to see if any benefits would result from it. He said he had a filter at his house, and filtered water in his cisterns that supplied the house with water, and I told him that we had had one. He asked me why it wasn't used, and I told him we had had it broken several times from the help that had charge of it, screwing on the top to clean it, and he went on to explain that a filter was very easy to clean, that he had cleaned his himself, and said it was the best water to use, and that we ought to discontinue the use of the other water.

Q. I understand you to say that filtered water fed the cistern?

A. Yes sir.

Q. From the public water works?

A. Yes sir.

Q. Did you follow his advice?

A. I did sir.

By Mr. FORMAN:

Q. You had a porcelain filter?

A. No sir.

Q. What was it?

A. It was a tube filter—a Shepard filter.

Q. The Shepard filter is a stone filter, is it not?
A. Well, it is a filter that has a capacity of three hundred gallons a day.
Q. But the filter you used, was it not made of porcelain tubes?
A. No sir, composition, I believe sir.
1069 Q. Composition, you say—is it not stone?
A. It is a stone, yes sir.

By Mr. BECKWITH:

Q. You know the Luderbach filter? Does it look like that. Is it constructed like that—with upright tubes etc.?
A. No sir; well, there are different kinds, it is something like a Luderbach filter, but this is like a boiler with those tubes inside.
Q. The tubes are made of what?
A. Composition—stone composition.

Mr. ROB'T MCNAMARA, recalled for defendant:

Direct examination by Mr. BECKWITH:

Counsel for defendant produces a document marked "McNamara 1," and hands it to the witness, and asks:

I believe you called off the new and old hydrants off this list yesterday?
A. Yes sir.
Q. Are you familiar with the wells themselves—you are familiar with the wells?
A. Yes sir.
Q. Now, will you take this list and tell us to what mains each one of these wells is connected and what size of pipe?—will you look and see the well on Poydras street toward Front and state if that is correct?
A. Front & Poydras is an eight-inch supply off of a thirty-inch main—that is not right.
Q. What is the error?
A. It is two, six inches, that feeds to this well, off of a thirty-inch main.
Q. So that should be two- six inches instead of one eight?
1070 A. Yes sir.
Q. In other respects is that list correct?
A. Yes sir.
Q. Will you take a pen and change that on the list so that it will be correct hereafter as a list?
A. Yes sir.
Q. The list is now—as you have changed it, correct?
A. Yes sir.

Counsel for defendant offers the list in evidence as corrected.

Q. Have you any knowledge of any of the valves or fittings in that or those wells having been out of order or continued out of

order longer than the time it took to repair them, during the time that you have had charge of that branch?

A. Well, on one occasion we had some trouble with the supply of a fire-well for a while.

Q. What well was that?

A. At the intersection of Tchoupitoulas & Felicity.

Q. About when was that well put in?

A. I think about 1895 or 1896.

Q. Was it all right when it was put in?

A. Yes sir.

Q. When did you first know, or when did the company first know there was any claim that that well was out of order?

A. Well I don't exactly know when the company inspector reported that well to me—some time ago though.

Q. How long ago was it,—during 1899?

A. Yes sir.

Q. That is the first time you knew of it?

A. Yes sir.

1071 Q. Well, did you then investigate that well?

A. Yes sir, we found it practically speaking in first-class condition, but one of the valves on the main line was out of order—that is, it was a deceptive valve, it wouldn't open up full.

Q. That was screwed or attached to the well or main?

A. Yes sir, it was attached to the main.

Q. The valves in the well were all right?

A. Yes sir.

Q. Now, where was this valve that you overhauled located?

A. At Tchoupitoulas & Celeste.

Q. Was one of the valves put in there for the purpose of getting at the main for repairs?

A. Yes sir.

Q. How did you find that—that there was an obstruction at the valve?

A. In opening and shutting the valve the screw would not come up as usual, and then we knew there was not an opening there, and then we took it out.

Q. What did you find to be the condition of that valve?

A. The valve and stem were in fine condition, but the screw was too tight in the nut, it would jam itself.

Q. Then a valve was put in, giving a full opening to the main?

A. Yes sir.

Q. What time was that valve put in—do you know? Was it put in when the city had the works, or since?

A. Yes sir.

Q. What is that main that that well is situated on—what size——

A. A six-inch main.

1072 Q. To what main, what larger main does it connect?

A. It feeds from an eighteen-inch main on Richard street.

Q. About how far from the well?

A. About four squares.

Q. Did you try the well after you had discovered that trouble?
A. Yes sir.
Q. What is the condition of the well now, as a fire-well?
A. Well, it is as good as any of our wells now. It is in first-class condition.
Q. There is a free delivery in it now of six inches?
A. Yes sir.
Q. If that had been reported by the fire department to the works would that search for the trouble have been made at once?
A. Yes sir, immediately.
Q. Are there not monthly inspections of the fire wells and hydrants made by the company in connection with some representative of the fire department?
A. Yes sir regularly every month—once a month.
Q. For the entire district?
A. For the entire district.
Q. Are you familiar with the locality where a fire known as the cotton fire, somewhere about Thalia street, took place?
A. Yes sir.
Q. About how far is that from the pumping station—the upper end of that fire?
A. I would say it is about eight squares.
Q. Do you know what main ran down from the works at that time, in that direction?
A. Yes sir.
Q. What wells?
1073 A. A sixteen-inch main down Peters street.
Q. How far down did that go?
A. The sixteen-inch main continues as far as——
Q. Poydras street?
A. Poydras street,—in that neighborhood, yes sir.
Q. Were the hydrants on Peters street connected with that main?
A. Yes sir.
Q. What mains or fire-wells were there on parallel streets, back from Peters street?
A. Well, at the time of that fire the main supply in that neighborhood were all fire-hydrants.
Q. But on what mains did they connect?
A. They connect with the mains on Erato crossing Peters street, Thalia, Clio & Calliope.
Q. About how many hydrants were along there, within reach, that were available for an ordinary fire-engine, for the purposes of extinguishment of fires?
A. Well, take about five hundred feet each way I suppose—about thirty or forty hydrants.
Q. Are they well fed—well supplied?
A. Yes sir, all well supplied.
Q. Now will you take the wells on Tchoupitoulas street—the upper wells on Tchoupitoulas street, and state whether you know (*its*) their condition, and how they are fed and what supply of water they ought to give, either greater or smaller?

A. The fire-well on Tchoupitoulas and Religious is fed by an eight-inch feed off of an eight-inch main on Religious street. This their well, fully opened, would supply about ten engines, I suppose.

Q. Well, is that the upper well on that street?

1074 A. Yes sir.

Q. Now, what other wells below that?

A. At Tchoupitoulas and Hunter—a six-inch feed off a sixteen-inch main on Tchoupitoulas street; this well would supply——

Q. About how far is that fire-well from the main?

A. It is within twelve feet.

Q. Well, do you believe that any two fire-engines can pump the water out of that well when opened?

A. No sir; it is a tremendous beg well you know; it would supply five or six engines.

Q. Now, there is a well on Tchoupitoulas street in a kind of three-cornered space where the street branches off—is that Religious?

A. Yes sir, Tchoupitoulas & Robin, and Religious.

Q. Do you know if that was one of the wells used during the full capacity for the filter test?

A. Yes sir, that is the well.

Q. Now, as you go down Tchoupitoulas street, what is the next well below Hunter—between that and Felicity?

A. Tchoupitoulas and Hunter is between that and Tchoupitoulas and Religious.

Q. I know, but now between Tchoupitoulas & Hunter, and Felicity?

A. No sir, I don't know of any between there.

Q. Were you up at the scene of that fire,—the cotton fire, at the time it was going on?

A. No sir, I didn't see it at the time it was going on.

Q. Now is there any well on Tchoupitoula*d* street between Hunter & Poydras?

A. There is a fire-well on Tchoupitoulas & Poydras.

Q. What sort of a well is that?

A. That is a six-inch feed off a twenty-inch main.

1075 Q. One at the corner of Poydras & Tchoupitoulas?

A. Yes sir.

Q. How long has it been that way?

A. I think about two years ago it was connected to the twenty-inch main.

Q. What was it connected with prior to that?

A. A six-inch main.

Q. Now, going out Poydras street toward the river, where is the first well?

A. Poydras & Tchoupitoulas to Front & Poydras.

Q. That is a well with two six-inch discharges in it?

A. Yes sir.

Q. What does that take in there?

A. A thirty-inch main on Front street.

Q. Is there any crossing Front & Gravier?

A. Front & Common—Front & Gravier, yes sir.
Q. That is an eight-inch well?
A. An eight-inch feed off a thirty-inch main.
Q. Do you remember what the Common Street main is?
A. The Common Street main running from Front towards the woods?
Q. Running back Common street?
A. A four-inch main.
Q. Is that one of the old city mains?
A. Yes sir.
Q. What is the main on Gravier street?
A. Four-inch.
Q. That is also a city main?
A. Yes sir.
Q. What was the original main on Tchoupitoulas street running up from Common to Poydras?
1076 A. Six-inch.
Q. Originally six-inch?
A. Yes sir. The old city main.
Q. How many hydrants were on that?
A. From Poydras to Canal?
Q. Yes.
A. There were about fifteen.
Q. Has there been any rearrangement or supply on Tchoupitoulas street?
A. Yes sir, an entirely new main—an entirely new main on Tchoupitoulas.
Q. Where does that take water?
A. A twenty-inch on Poydras connecting from a sixteen-inch on Canal street.
Q. About what time was that done?
A. About two years ago.
Q. Now what effect would the opening of two six-inch nozzles on the Poydras & Front wells, and one eight-inch on the Common Street well, have on the pressure of the fire-hydrants around there?
A. I don't think it would have any effect on Tchoupitoulas street now.
Q. But prior to that?
A. It would dry Tchoupitoulas street.
Q. Have you ever seen the two six-inch deliveries on the Poydras & Front Street wells opened?
A. Yes sir.
Q. Fully opened?
A. Yes sir.
Q. Does it not turn Poydras street into a river almost?
A. Yes sir, floods the whole street.
1077 Q. Have you seen the eight-inch delivery on Common & Front opened?
A. Yes sir.
Q. Were you present at any of the fires that took place there—a cork fire or Morris' second fire?

A. Yes sir.
Q. About what time did you go there?
A. About an hour or an hour and a half after the fire.
Q. What were the conditions of things then, as to water?
A. Well, everything was in pretty full blast there,—water running and the streets all flooded.
Q. The fire-engines were not picking it all up?
A. No sir.
Q. What fire was that—the cork fire?
A. Yes sir, about seven o'clock in the evening.
Q. Were you at the Morris Building fire?
A. Yes sir.
Q. That was a woodenware establishment was it not, the selling and trading in woodenware?
A. To the best of my recollection I think it was chinaware and furniture etc.
Q. The same as Morris McGraw wasn't it?
A. Yes sir.
Q. What time did you get to that fire?
A. I can't exactly say; it was burning pretty lively when I got there.
Q. Had the wells been opened, every one of those on Common & Poydras?
A. The well at Poydras & Camp was open, and the one at Camp & Lafayette was full open, and there were engines around those wells.
1078 Q. Had there been any effort to open any of the wells on Front street?
A. I don't recollect those being opened at that time.
Q. They were within easy reach of the fire?
A. Yes sir.
Q. When you got there, what was the condition as to water, apparently?
A. Judging from the engines working there, they looked like they were fully supplied, plenty of water everywhere.
Q. When you open the Camp street and other well, where does the excess of water go, does it go back on town?
A. On Poydras street.
Q. In what direction would have been the flow from Front & Poydras and Common & Front—that would run past the fire?
A. Yes sir, from Poydras it would go right in front of the fire.
Q. Did you ascertain or see any reason for opening the wells on the Camp Street side of the fire instead of the Front Street wells?
A. No sir, I did not.
Q. Were you on the ground any time during the fire known as the Brooklyn Cooperage fire?
A. No sir.
Q. The cork fire?
A. Yes sir.
Q. You were at that fire?

A. Yes sir.
Q. What was the condition of things there?
A. The cork fire was burning pretty lively when I reached there, and the engines were all working.
Q. Well, what wells were available there if they had been wanted—at the cork fire?
1079 A. The cork fire? Magazine & Natchez, Magazine & Gravier, Tchoupitoulas & Poydras.
Q. And Common & Poydras and Front & Poydras?
A. Front and Common, Front & Gravier, yes sir.
Q. But they were not open at that time; when you reached there, neither of the front wells were open?
A. No sir.
Q. They were the wells to have been legitimately opened to have brought all the water there?
A. Yes sir, and Colonel Gardner referred them to that.
Q. Did you ever see these firemen pumping out of one of those wells?
A. Yes sir.
Q. Well now, in pumping, do they regulate the valve so as to let what water the engines would take in, in order not to waste, or do they open it wide and let it run?
A. They open it full wide and let it run.
Q. So that if an eight or six-inch valve was opened in there with only two engines, they wouldn't close it down?
A. No sir.
Q. Did not that waste the water into the gutter?
A. Yes sir.
Q. What effect does that excess have upon the main—have upon the hydrant supply?
A. It would give them a poor supply and injure the hydrant.
Q. About how long did that cork fire last?
A. I don't exactly recollect.
Q. A short time, or a considerable time?
A. It didn't take long to burn up.
Q. What was the well at the corner of Chartres & St.
1080 Louis street, prior to the digging of that canal down there?
A. That was fed from a six-inch feed from an eight-inch main on Chartres street.
Q. Did you ever try or test that well within the last few years?
A. Yes sir.
Q. Your knowledge of the condition of that well, so far as the fittings and connections are concerned goes down to the time of the fire testified to down there?
A. Yes sir, the well at that time; some trunk factory burned down there, and I seen that well in operation then.
Q. You saw that well being used at that time?
A. Yes sir.
Q. How many engines were taking water out of the well?
A. I don't recollect now Judge.

Q. Do you recollect whether there were engines enough to take all the water or did it overflow?

A. To the best of my recollection they just about controlled that well at that time.

Q. What wells existed at that time between there and the river, or in that vicinity that were available for that fire?

A. There was one at the corner of Decatur & Toulouse, a fire-well really available.

Q. What is the dimension of that well?

A. Six-inch feed off of a ten-inch main.

Q. Do you know whether that was opened or not at that time?

A. No sir, I don't recollect that being opened.

Q. To the best of your knowledge or recollection, what hydrant attachment existed, that could have been used on parallel
1081 streets above and below and in that vicinity?

A. Well, the pressure on Decatur street, Chartres & Royal, very good. Splendidly fed fire-hydrants.

Q. Do you think they would be good with six-inch well opened?

A. Yes sir.

Q. Well, where did that six-inch pipe on Chartres street take its uptown supply?

A. Eight-inch main—it is fed from Canal street; sixteen-inch main.

Q. The excavation of the drainage canal there destroyed it?

A. Yes sir, all the way from Canal to St. Louis?

Q. Now, at this time what is the connection of that well on Chartres & St. Louis.

A. It is connected with our thirty-inch main going down Chartres street.

Q. The hydrants disconnected from the old one, now connect with the system between Canal & St. Louis?

A. They are all connected with the thirty-inch main now.

Q. Do you remember the size of the main on Bourbon street?

A. Yes sir, sixteen-inch.

Q. And on Royal?

A. Royal is six.

Q. That extends to St. Louis?

A. Yes sir.

Q. At the time of the fire you speak of, was the large main in operation on Bourbon street—was it in *in* existence?

A. Yes sir, it was in existence.

Q. There should be no trouble about the hydrants draw-
1082 ing on that main?

A. Not any, no sir.

Q. Even with the six-inch well opened?

A. No sir, it has nothing to do with the well.

Q. Now the firemen talk about the fire they call the Dumas fire—a furniture store or something; do you remember that fire somewhere down below Custom-house street?

A. No sir, I don't recollect that fire—I think the time of the cork fire, Dumas burned too; he had a warehouse at that time.

Q. Do you remember what is known as the Swartz building fire,—the building that burnt at the corner of Bourbon & Canol, a dry-goods store?

A. No sir.

Q. A large building burned down there?

A. I know of the fire, but I don't recollect anything about it,—the date I don't.

Q. Well they have been swearing that *they* was no water there; will you give us the wells,—the fire-well that is nearest to that point, corner of Bourbon & Canal—that is on Canal street?

A. Yes sir, one right opposite Carondelet & Canal.

Q. Well what is the size of that well, and what does it connect with?

A. A sixteen-inch main on Canal street—six-inch feed.

Q. Well then, what is the next one?

A. Custom-house & Bourbon, one block below that.

Q. What is the size of that?

A. A six-inch feed off a sixteen-inch main on Bourbon street.

Q. Is there another one on Camp & Canal?

A. Yes sir.

Q. What was that connected with?

1083 A. That's off an eight-inch pipe at that time—there was one on Chartres & Canal too.

Q. Well, count up how many wells there were within reach of that fire?

A. Camp & Canal; Chartres & Canal; Carondelet & Canal; Custom-house & Bourbon and one at Dauphine & Canal.

Q. Do you understand how, in all those wells and connections there could have been no water at that fire?

A. I hardly could; any one of those wells will throw an immense amount of water; they are all finely supplied.

Q. Have you ever seen one of those wells dry with the valve open?

A. No sir.

Q. They are pretty apt to be dry if they don't open the valve?

A. Yes sir.

Q. Now, another fire where the firemen couldn't find water, that was the building standing at the corner of Baronne & Canal, the Chess Checkers & Whist Club I believe; will you tell us the number of wells that were available to supply water for that fire?

A. There was one at Carondelet & Canal, Baronne & Canal, one at St. Charles & Common, Rampart & Canal and Dauphine & Canal.

Q. And all the wells up the street,—up Canal street to Camp?

A. zYes sir, one at Canal & Camp; one at Canal & Magazine and one at Canal & Tchoupitoulas.

Q. Give us the size of the main that supplied the Baronne Street hydrants?

A. A ten-inch main on Baronne street, and sixteen-inch main on Canal street.

Q. Are the hydrants on Baronne connected with the ten-inch?

A. Yes sir, all of them.

Q. What is the size of the main running out Common street?

1084 A. Four-inch.

Q. What is the size of the main on Carondelet street?

A. Eight-inch.

Q. And sixteen you say on Bourbon?

A. On Bourbon, and sixteen on Canal.

Q. What is the size of it on Burgundy street?

A. Burgundy is a six-inch main.

Q. What is the size of the main running out Canal street to the rear of the town Rampart street and Dryades and beyond?

A. Sixteen-inch main runs out to Claiborne.

Q. Are there any hydrants on that main?

A. Yes sir.

Q. Did you see that fire yourself?

A. No sir. Do you mean the one at Baronne & Canal?

Q. Yes.

A. No sir.

Q. Well now, another fire that they couldn't find water for, was the Pickwick Club; did you see that fire?

A. Yes sir.

Q. Well, the same wells that you have spoken of as available for the fire at Canal & Baronne were available for that fire?

A. Yes sir, the same wells and the same supply.

Q. And Camp street—what is the Camp Street main?

A. Camp street? An eight-inch main—eight and thirty on Camp.

Cross-examination by Mr. FORMAN:

Q. Two parallel mains?

A. Yes sir.

Q. Thirty-inch on the river side?

A. On the woods side.

1085 By Mr. BECKWITH:

Q. Are you familiar with the distribution of the water about the Richardson memorial building or Tulane medical building out on Canal street?

A. Yes sir.

Q. That is situated on what block?

A. The medical college is on Canal, Custom-house, Robertson & Villere.

Q. What is the size of the distributing mains on Canal street?

A. Sixteen on Canal street.

Q. From what street running downtown does that building take its supply?

A. From Villere street, an eight-inch main connected with Canal and running to the dead end out at Toulouse street.

Q. What was the size of the service of the building?

A. Three-inch.

Q. What was the size of their distributing pipes in the building?
A. Three-inch.
Q. When they had a meter, what size meter did you see there?
A. The meter was a three-quarter inlet and outlet—a Crown meter.
Q. How long was that meter there do you know?
A. No sir, I don't know.
Q. Was it there several years?
A. Yes sir, I can't say Judge, I can't remember.
Q. Then the service inside that building, coming from the main on Villere street was a three-inch pipe to the building,—about how far from the Villere Street main?
A. About seventy-five feet.
Q. Will you look at the plan I now exhibit to you, marked "McNamara 2"—plan of water mains in the vicinity of the
1086 medical college, and state if you made that sketch yourself?
A. Yes sir, that is a sketch of mine.
Q. Does that sketch represent the distribution in the vicinity of that college and down to St. Louis street?
A. Yes sir, the exact distribution.
Q. Now, is there a cross-connection at Custom-house street with the main running out Custom-house street?
A. No sir, it does not connect there.
Q. Where is the first cross-connection down?
A. At Bienville.
Q. What is the first cross-connection next below that?
A. St. Louis.
Q. How far beyond that connection does that pipe go to come to the dead end?
A. About a hundred and fifty feet.
Q. Passing down Villere street then, you get a dead end about how far below St. Louis street?
A. Just about one hundred and fifty feet below St. Louis street.
Q. What is the size of the connection—the cross-connection at Bienville?
A. A four-inch pipe.
Q. How far does that pipe run back towards Claiborne street before it comes to a dead end?
A. At Robertson, one square from Villere.
Q. Where does the next connection below come to a dead end,—on what street?
A. On Villere street between St. Louis & Toulouse.
Q. No; but I mean on Bienville—the Bienville Street connection comes to a dead end on Robertson?
A. Yes sir.
1087 Q. Now is that connected with the cross-main of the Canal Street well?
A. No sir.
Q. Then there are a series of dead ends on that distribution?
A. Yes sir, five squares below each one of the dead ends.

Q. And a dead end of two of the mains running back?

A. Yes sir.

Q. Now, what service is there taken off from that Villere main from where the medical college takes its supply to the dead end at St. Louis street?

A. Only two open hydrants on that stretch.

Q. By open hydrants you mean only two houses taking a supply from that?

A. Yes sir.

draft

Q. So that the whole draught from the Villere main to that dead-end—direct draft, is one that takes the medical college, and two three quarter house services, except when the fire-hydrants are open——

A. Yes sir.

Q. Now, how many fire-hydrants on those dead ends?

A. Well, there are four hydrants on the Villere Street end, and there is one on the Customhouse Street dead end, and one on the dead end of Bienville, and one at the dead end of Conti, and one at the dead end of St. Louis and Robertson.

Q. How often are those blown off?

A. Well, the superintendent blows them off once a year—about once a year they are blown off.

Q. Then there is a larger mass of pipe there upon which there is very little draft?

A. Yes sir.

1088 Q. Now what is the effect so far as the effect of sediment is concerned, upon the pipes, where they don't take much water. Do they keep open or are they filled?

A. Well, there is somewhat of a deposit in the hydrant when not opened regularly.

Q. But all the sediment that is deposited, is deposited there except when drawn off by this small service?

A. Yes sir.

Q. Now, after this water through the medical college three-inch service pipe is constricted to the three-quarter-inch, it passes into three-inch main distributing pipes inside the building?

A. Yes sir.

Q. Would a three-quarter service meter supply water enough in that three-inch system in the building to drag it clean?

A. No sir, it hardly could.

Q. Do you know of there having been any fires in that belt of dead-end pipes, within the last eight or ten years?

A. No sir, I don't recollect any.

Q. What is the character of the city there? Populous, large houses or tenement district, or what?

A. About all are two-story frame buildings and one story.

Q. Do you know of any of them taking water between Villere street and Robertson street on the Bienville dead end?

A. No sir.

Q. Do you know of anybody taking water on the other dead ends between there—between Villere & Robertson?

A. No sir, not on the parallel street.

Counsel for defendant offers in evidence both documents identified by the witness marked respectively, "McNamara 1" & "McNamara 2."

At this point court adjourned until Tuesday, Jan'y 9th, 1900.

1089 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for defendant in above entitled and numbered cause, taken in open court this —th day of January, A. D. 1900, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, James J. McLaughlin and C. C. Fredericks, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and Howard McCaleb, for def'ts. Branch K. Miller, Esq., for Board of Liquidation.

ROBERT MCNAMARA, JR. recalled on behalf of defendant.

Direct examination by Judge BECKWITH:

Q. Have you ever had occasion to repair the eight-inch main on Villere street, from which the Tulane medical college is supplied?
A. Yes sir.
Q. What sort of pipe is it?
A. It is a pipe known as the old English head pipe, nine feet length.
Q. Installed by the city?
A. Yes sir.
Q. Now, as to the four-inch mains on Bienville and Conti streets, what are they?
A. They are four-inch mains, old-style pipe.
Q. Old-style pipe?
A. Yes sir.

1090 Q. Will you please look at sketch which I now hand you marked Defendant's Offer, McNamara No. 3, and state what it is?

A. This is the distribution of the water mains, in the vicinity of of the fire that occurred in the fourth district, old and new mains.
Q. What is known as the "large fire"—the Magazine and Laurel Street fire?
A. Yes sir.
Q. Who prepared that sketch?
A. I did.
Q. Is it correct as to location and size of the mains?
A. It is a correct description of all water mains in that vicinity.

Q. Have you classified the new ones laid by the company—the defendant here, and those laid by the city?

A. Yes sir.

Q. Are they exactly delineated on that exhibit?

A. Yes sir.

Counsel for defendant, offers, introduces and asks to be filed in evidence, marked "Defendant's Offer, McNamara 3."

Q. I see that some of the blocks, or parts of blocks are shaded, what does that shading indicate?

A. That is across where the fire burned.

Q. The part the fire burned is represented by the dark shade?

A. Yes sir.

Q. Are the marginal notes on that sketch correct?

A. Yes sir.

Q. Will you now examine this exhibit, I present to you, marked Defendant's Offer McNamarra No. 4 and state what that is?

A. This is the distribution of the water mains in the vicinity of the Maginnis cotton mills—an accurate description.

Q. Have you made a recent exploration of the pipes in that vicinity?

A. Yes sir.

Q. When?

1091 A. Three days ago.

Q. How?

A. By digging down, taking the laborers there and digging down and examining and measuring it.

Q. What is the size of the service from the Poyfare Street 6-inch main to the cotton-mill premises?

A. Six-inch main going into the cotton mills, taking off the 6-inch main on Poyfare street.

Q. How far did you explore that service?

A. This main? About thirty feet.

Q. Did you explore within the premises?

A. No sir, just to the property line.

Q. Why did you not explore within the premises, to see whether they do carry the same size to the mill?

A. Well, there was some man there at the Constance Street entrance told us we would have to get a permit from Mr. Maginnis to come inside the place.

Q. Is your delineation as to size correct, as to service from 16-inch main on Calliope street?

A. Yes sir, 8-inch main.

Q. Does that sketch show the size of service, and length of each run?

A. It shows the size of service.

Q. About what is the length of that service from where it takes off the 16-inch Calliope main, to the mill premises; about what distance?

A. 142 feet from the 18-inch main on Calliope street.

Counsel for defendant, offers, introduces and asks to be filed in evidence exhibit marked "Defendant's Offer, McNamara # 4."

Q. Do you know anything about the distribution of mains at St. Charles avenue and Burdette streets?

A. Yes sir. We have a six-inch main there—at Burdette.

1092 Q. What does it take off of?

A. Off St. Charles avenue.

Q. Burdette & St. Charles avenue?

A. Six-inch main.

Q. What is the size of main running up St. Charles avenue, to Carrollton avenue?

A. That is ten-inch main so-called.

Q. Ten-inch main on Burdette St.

A. Ten-inch main commences at State street, which is just this side.

Q. Where is Burdette street, how far up the avenue?

A. I can't exactly locate Burdette, Webster is a ten-inch main; starts at Webster——

Mr. FORMAN says: Burdette street is about 400 feet above Audubon park.

A. That is a ten-inch main.

By Judge BECKWITH:

Q. What is the distribution in the way of mains on Thalia, between Magazine and Camp; what sources of water are available there, for fire purposes?

A. On Peters street it is a four-inch main——

Q. Where does that take its water?

A. Thalia street; it goes out Camp street and to Magazine.

Q. Well, what is size of main on those two streets?

A. Magazine and Thalia is 16-inch and Camp street is eight-inch.

Q. Are there hydrants on those mains?

A. Yes sir.

Q. Do you remember about how many hydrants there are; within a range of about five hundred feet, at any point on Thalia between Magazine and Camp.

A. I should say about twenty.

Q. Now, do you know where the Olympic Club building was situated, before it was destroyed?

1093 A. Yes sir.

Q. What part of the city was it?

A. Bounded by Royal, Chartres, Montegut and Clouet.

Q. Away down in the lower part of the city?

A. Yes sir.

Q. What is the distribution of water there?

A. We have an eight-inch at Royal street and a six-inch main on Dauphine.

Q. Are there any cross-mains?

A. There is a cross-main now at Montegut street; but not at the time of the fire.

Q. Not at the time of the fire?

A. No sir.

Q. Are there fire-hydrants there, in the vicinity?

A. Yes sir.

Q. What is the distribution at about the corner of First and Annunciation?

A. Ten-inch main on Annunciation.

Q. What is the distribution on First street?

A. I don't think we have a main on First street, at that point.

Q. What is the next street parallel to Annunciation?

A. Jackson avenue.

Q. What distribution is there there?

A. There is an eight-inch pipe.

Q. Where does it take its water?

A. Takes it water from connection to Magazine, eight-inch on Magazine.

Q. Are there any fire-hydrants in that vicinity?

A. Yes sir.

Q. What is the distribution at,—or was it in 1892—at corner of Berlin and St. Charles avenue; was there any?

A. I can't exactly say; I don't think there was at that time.

1094 Q. Do you remember what time the Carrollton extension was made; 1894-'95, wasn't it?

A. It was somewhere in that time.

Q. Did you ever know anything of a sort of Picayune, Rosetta gravel system that Maurice Hart devised in connection with the Rosetta gravel pavement?

A. Yes sir.

Q. Where did that system take its water?

A. Well, it had a connection at Fischer's saw-mill, in the neighborhood of Napoleon avenue, connected to the St. Charles Avenue main; six-inch main; Louisiana and Washington avenues and St. Charles avenue and running away down to Carrollton avenue and at Carrollton avenue into Washington avenue, and then in Washington avenue again to St. Charles avenue; six-inch main.

Q. That main was laid by Hart, was it not; or the company?

A. *So* sir by Hart, the Rosetta Gravel Company.

Q. The defendant company never supplied any water to it?

A. No sir.

Q. Do you know whether Hart established hydrants along there?

A. Yes sir; he established hydrants.

Q. Was that in existence in 1892?

A. No sir, I don't think it was; I don't exactly remember.

Q. You cannot tell?

A. No sir.

Q. Was it in existence prior to the time that the defendant company established the main up to Carrollton?

A. Yes sir.

Q. Prior to the time that that main was laid up to Carrollton by the company, how far up did the company's pipes extend—available for the extinguishment of fires on St. Charles avenue, or vicinity—how far up did they go?

—. ——.

A. About Webster street?

A. Yes sir.

Q. Berlin is about Webster?

1095 A. Yes sir.

Mr. Forman, says, Berlin is a mile and a half this side of Webster.

A. I understood you to say Walnut.

By Judge Beckwith:

Q. What was the main thaen that the company had on St. Charles St.

A. Six-inch.

Q. And it extended to what street?

A. About Webster.

Q. What is the water distribution at the corner of Louisiana avenue and Magazine, and between Chestnut and Coliseum?

A. On Magazine between Chestnut and Coliseum?

Q. Louisiana avenue?

A. There is an 18-inch main on Louisiana avenue, and an 18-inch main going up Chestnut street.

Q. Fire-plugs in that vicinity?

A. Yes sir.

Q. What is the distribution at Berlin and Carondelet streets?

A. We have a six-inch main going out Berlin, from St. Charles.

Q. How far back does that go?

A. That goes out Berlin; I am not sure now, but I think as far as Rampart.

Q. Was that distribution there in 1897, July 1897?

A. Yes sir.

Q. What is the distribution at the corner of Berlin and Liberty?

A. Well, that pipe, I think, extends as far as Rampart; I don't think we have any at Berlin and Liberty, I am not positive of that.

Q. What is the distribution at the corner of Felicity and Dryades?

A. We have an eight-inch pipe on Dryades street.

Q. Is there any on the cross-street?

A. Yes sir, on Felicity we have, I think, it is there 16 or 18 inch, at that point.

1096 Q. Are there hydrants, or fire-wells in that vicinity?

A. Yes sir.

Q. Do you know of any fire-wells on Thalia street?

A. Yes sir.

Q. Where?

A. They have a fire-well at Tchoupitoulas and Thalia at the intersection.

Q. Are there any fire-wells back of that, on that street towards the swamp?

A. No sir.

Q. Do you know where the Fabacher stables, that burned, were?

A. Yes sir.

Q. How far up the street was it?

A. That was above Washington avenue, I believe, about two or three squares—about St. Thomas; somewheres in that neighborhood.

Q. Were there any water mains up there, at that time?

A. Yes sir; we had the water mains as far as St. Thomas, on Washington avenue.

Q. How near was that to the fire?

A. About three or four squares.

Q. *Was* was size of main?

A. Six-inch main and six-inch feed going into the well.

Q. There was a well there?

A. Fire-well, yes sir, Washington avenue and St. Thomas.

Q. Will you give us the distribution at, or near Soraparu market?

A. They have a six-inch main on Chippewa, runs from Jackson avenue to Soraparu, and a six-inch main on Soraparu from Chippewa, near the corner of Tchoupitoulas.

Q. About how far is that second main, that you have named, from the Soraparu market?

A. The second street main?

1097 Q. The second main that you have named.

A. That main at Soraparu passes on the upper side of the market.

Q. Are there fire-hydrants there in that vicinity?

A. Yes sir.

Q. Taking water off from those wells?

A. Yes sir.

Q. About how far is the Sorarparu market from the Mississippi river.

A. Well, an approximate estimate—about 200 feet.

Q. Do your duties in connection with the operations of the defendant company, make you familiar with the extent of the illicit opening of plugs?

A. Yes sir.

Q. As well as the opening of plugs by the city?

A. Yes sir.

Q. To what extent has the company suffered from the illegal opening of mains?

A. A great deal; we have trouble enough putting in repairs during heavy drouths.

Q. Are you compelled to use extra force at that time, besides the regular spannermen?

A. Yes, sir.

Q. How are these illicitly opened plugs operated—how do they manage to get the open.

A. Well, they use different kind of instruments; sometimes cobble-stones, just break the top off and open them with monkey-wrenche; sometimes locks off of doors, with holes in them.

Q. Have the employees of the company handled any of these devices.

A. Yes sir.

Q. Have you got any of them with you?

A. Yes sir.

Q. Will you show them to us.

1098 Witness produces the articles called for.

A. Here is a beer faucet used to open hydrants; it opens all kinds with the exception of the Holly and the Matthews. There is a brace, it fits very nicely over our old plugs, with the exception of the Holly and the Matthews.

By Mr. FORMAN:

Q. It is an ordinary carpenter's brace, isn't it?

A. Yes sir—here is a little toy of some child's; fits very nicely over a wooden case plug—right through that square hole; that will open it very easily; here is a relic of the late war——

By Judge BECKWITH:

Q. Pistol?

A. Yes sir; that fits over the stem of the wooden case plug; here is the top of a hatchet; they drive that right on the stem and turn it by passing a stick through here—here is a soup bone—that fits very——

Q. What's that?

A. A piece of soup bone, by the looks of it; that fits very nicely over the plug.

Q. Probably the shinbone of a cow.

A. Yes sir very apt to be. Here is a wagon wrench; that opens up our Holly plugs, after they take the top off. Here is a stove-lifter——

Q. What?

A. Stove-lifter, to lift the lids off of stoves; by the side of it, like that; that will open all our wooden case plugs. Here is the top of a monkey-wrench, that opens all our plugs, with the exception of the Holly and Matthews——

By Mr. FORMAN:

Q. It would be better if it had a handle, wouldn't it?

A. That opens it very well; they put a stick through and turn it; here is an angle iron, I suppose off some milkman's wagon; that opens a plug very easily. Here is a cotton-tie band; that fits
1099 over the stem of the wooden case plug, and put a stick through it and opens very easily. Here is a coffee-mill handle; that catches hold of the wooden case plug very easily. Opened by some of our spanners. Here is a bed lock; used in a

bed somewheres or other; that fits very nicely too, over all our plugs. I don't know what this is, but it opens a plug all right—bicycle handle—Mr. McLaughlin says—I have got a barrel of these things; these are just a few of them.

By Judge BECKWITH:

Q. How were these devices gathered into your museum?

A. They were taken away by these extra spannermen from people that were in the act of opening them.

Q. You have quite a large museum of them, have you?

A. Yes sir.

Q. What time in this ingenuity—what time of the year is this ingenuity most active, and to what extent do they depredate on the fire-plugs with them?

A. Done in the dry summer months—these accidents done to our plugs.

Q. How many plugs have you known to be open at one time; illicitly opened?

A. Well there was one day there was something in the neighborhood of over 100 opened maliciously; average generally 50, to 80, (0 100 and above a hundred.

Q. Are they modest in opening them, just to get enough; or open them wide?

A. Well, they generally take all the water they want, and then open wide and let them run.

Q. What effect does that opening of fire-hydrants have on the pressure in the mains?

A. Well, it decreases the pressure considerably, especially in the buildings.

1100 Q. Have you taken, or assisted in taking the pressure of the mains of the water works in comparison with the pressure of the stand-pipe, or at the engine pumping station?

A. Yes sir.

Q. When was it that you last took it?

A. December 11th.

Q. What year?

A. 1899.

Q. Where did you take it?

A. Well, we took three different tests; one at the corner of Webster street; one at First and Annunciation and one at Carrollton avenue and Poplar.

Q. Which one of the stations did you personally take the pressure?

A. Poplar and Carrollton avenue.

Q. That was on what date?

A. December 11th.

Q. At what time?

A. It was taken at 12 o'clock in the day until three minut-s past twelve.

Q. Did you station men at that point, that same day, to gauge pressure?

A. Yes sir.

Q. Will you please look at the exhibit marked Def't's. Offer, No. 28 and state if you made any of the statements, or memorandum contained in that computation?

A. Here is on- at Carrollton avenue and Poplar——

Q. That is marked 25?

A. Yes sir.

Counsel for plaintiff object on the ground that the evidence given is of events since January, 1899, and that if it is understood that the door is open to any investigation of the water supply since January, 1899, he has no objection.

1101 Counsel for defendant state that they wish to show not what the pressure had been, or any inference of what it had been prior to the filing of this suit, but to show a scientific fact relating to hydraulics which has been a law since water was created; that is to say; with a given pressure at the works at a given time; the pressure at remote points of the system, miles away, in order to show how much there was of fall—service and all taken out—between the stand-pipe or the altitude of the column, and the altitude at the end of the system. That that being the fact it depends upon the law of gravity in hydraulics. Counsel propose to show to the court and to counsel, precisely the relation between the main head of water at the stand-pipe, and the main head of water at the remote end of the system. That what it was on the 13th of December, relatively, it has been every day, when there was any pressure on the stand-pipe at all.

Defendant'- counsel wish to give occular demonstration as to relative difference between stand-pipe pressure and pressure at remote end of the gauge. That the testimony is not offered for the purpose of showing what the pressure was prior to institution of this suit; but what was the relative relation of the pressure of the system affected by the inevitable and irrefragible law of gravity and the law relating to hydraulics.

By the COURT: After this statement the evidences seems to me to be admissible for the purpose stated, it is accordingly admitted and the objection overruled.

Q. Will you designate the memorandum made by you?

A. The one marked 25 is mine.

Q. Now do you find any other?

A. Here is one taken in the vicinity of Montegut, Clouet and Chartres streets.

Q. Marked what?

1102 A. Marked 25 E.

Q. Do these statements contain the pressure gauge you found at that time named, in this service?

A. Yes sir.

Q. At each of them?

A. Yes sir.

Q. Taken under your own observation?

A. Yes sir.

Q. How was the gauge that you read attached to this system of water works?

A. It was attached to a tap fed through the nozzle of the Holly plugs, securely joined with copper gaskets, by a ¼-inch plug pipe leading into our gauge, and the water opened up through and the plug tested.

Q. Did you take accurate note of the time?

A. Yes sir.

Q. Will you state whether you made any comparison of watches with Mr. Orrell, the engineer at the works?

A. Yes sir; my watch was set with his.

Q. They were all of them running together?

A. Yes sir.

Q. Will you state what pressure you found down at the Olympic Club site?

A. Chartres, between Montegut and Clouet at 12 o'clock noon, December 13th, 1899 28 pounds pressure, one minute after 12, 29 pounds two minutes after 12, 30 pounds; three minutes after 12, 30 pounds and it remained there, stationary.

Q. In the tests made on the Carrollton main; who had charge of the other gauges that were being read at the same time?

A. Our chief spannerman, and our assistant engineer.

Q. What were their names?

A. M. Larkin and Robert Forester, Jr.

Q. After taking these tests, did you go to the pumping station?

1103 A. Yes sir.

Q. Well, what was done on the gauges at the pumping station?

A. The gauges we used?

Q. Yes.

A. They were tested with our chief engineer's gauge, and the readings noted by each of us at that time.

Q. Noted by the chief engineer, Orrell?

A. Yes sir.

Q. Will you tell us what sort of plugs; fire-plugs—is the plug that you term an old city plug.

A. Wooden-case plug.

Q. What is the size of the Zozzle?

—. Two & ⅛ inch—inside diameter.

Q. Inside diameter?

A. Yes sir.

Q. Inside diameter, that is of the orifice?

A. Yes sir.

Q. What other plugs have the company installed in their installation?

A. The single-nozzle Holly and double-nozzle Holly.

Q. What is the size of the opening in the Holly plug?

A. Two and a half inches.

Q. An eighth of an inch larger that the city-plug opening?
A. Yes sir.
Q. Is the difference in external size—of the outer diameter of the nozzle where the couplings screw on; is one larger than the other?
A. Yes sir.
Q. Which is the largest diameter of threaded service?
A. The Holly plugs.
Q. About how much?
A. Well, there is $\frac{3}{8}$ difference in the inside diameter, and there is about an eighth more for the outside diameter.
1104 Q. Now, what is a double-nozzle plug?
A. A double-nozzle plug has two openings, right and left.
Q. That is there are two places where the hose connection can be made to the plug, instead of one, as in the case of the old city plug?
A. Yes sir.
Q. Now, what protection is sought to be given to the flat stem of the Holly system of plugs, to prevent its being tampered with?
A. We have an iron cap that fits over the screw, with a small hole in it, on the top to admit the regulation spanner fits in through it to open and to shut it.
Q. What is the shape of the head of the stem on which the key, or device for opening the valve is put; what is its shape?
A. Square, about an inch square.
Q. So the protection against tampering with the Holly plug, consists in a cap over the valve arrangement?
A. Yes sir.
Q. Well, how do they manage that, when they undertake to open it?
A Well, they just take a rock and smash it off.
Q. When once smas-ed then the valve system is operated by anything that would turn the square head?
A. The top makes a very good spanner, also, to open it.
Q. That is, they could smash the cover, aud then use the cover to open it?
A. Yes sir.

Counsel for defendant, offers, introduces and asks to be filed in evidence the instruments and devices fer opening fire-plugs produced by the witness, and it is agreed that in case of an appeal, the same shall go up in the original.

By Mr. FORMAN—cross-examination:

Q. Which one of these places did you take the pressure yourself?
A. Chartres between Montegut and Clouet, was one; Car-
1105 rollton avenue and Poplar was the other.
Q. You took them both?
A. Yes sir, different days.
Q. I suppose 37 pounds, means 37 pounds to the square inch?
A. Yes sir.
Q. What?

A. It means regular gauge pressure; Government gauge pressure—steam pressure.

Q. Does not that mean so many pounds pressure to the square inch?

A. I am not positive about that part of it.

Q. You don't profess then to be a hydraulic engineer?

A. No sir.

Q. Then all you know about it, is that the water-works people gave you a gauge and you attached the gauge and read it?

A. A gauge that I bought myself.

Q. What?

A. A regular Government gauge that I bought myself.

Q. You bought the gauge?

A. Yes sir.

Q. Why do you call it a Government gauge?

A. That is the name on the back; it is tested by the United States Government.

Q. Did you ever make any experiments to test water when the pressure was very high at the pumps where the condition would be less at the remote station than if it was very low at the pumps?

A. The only pressure I have taken——

Q. Sir——

A. I have not taken any pressures only those two mentioned.

Q. You have only taken those two?

A. Yes sir.

Q. So you don't know whether the relations would be changed by a higher, or lower, pressure at the pumps?

1106 A. No sir.

Q. You don't know whether the relation would be changed, whether the pipes would be large or small?

A. I don't understand your question.

Q. Suppose the pipes all the way from the pump station to Carrollton were thirty-six-inch, continuous great big pipe, all the way up, would the relation of the pressure between the pumps and the remote station be changed by the circumstance that the pipes were all large, or by the circumstance that the pipes were diminishing until they get down to say a six-inch?

A. No, I don't think that would effect the pressure at all.

Q. You estimated that the pressure——

A. The standard pressure on the pump would be the same all over the city; standard pressure at the pump station corresponding with the same all over the town——

Q. But there is a diminished pressure the further you go away from the station, your own examination shows there is a dimunition of about ten pounds to the square inch.

A. It increases the amount that is consumed; there is a certain amount of water that is consumed.

Q. Sir?

A. I suppose there is a decrease according to the amount of water that is consumed.

Q. I know; suppose we assume that every hydrant and every plug, and every fire-well on the line is closed——

A. Yes sir.

Q. And under those conditions the difference would necessarily be less than if they were all open?

A. Yes sir.

Q. Isn't that so?

A. I cannot exactly say; I don't know; I don't understand your question.

1107 Q. Well, suppose there are forty plugs and forty fire-wells open, between the pumping station and the Poplar Street hydrant?

A. Yes sir.

Q. The difference between the pressure at the two places would be much greater than if they were all closed, wouldn't it?

A. Yes sir; there would be a decrease in the pressure.

Q. The decrease, of course, at the remote station would be very much greater than if they were all closed?

A. Yes sir.

Q. Where did the Rosetta Gravel Company get their water?

A. Fischer's saw-mill gave them some of their water—that is the St. Charles Avenue main and the Carrollton Avenue main and the Washington Avenue main was taken from Napoleon avenue at Fischer's saw-mill; to the best of my knowledge at that time.

Q. Did the Rosetta Gravel Company get any water from the water works?

A. No sir, none that I know.

Q. Did the water pipe that they put at Washington avenue connect at Fischer's saw-mill?

A. Connected with Carrollton avenue.

Q. What?

A. Connected with Carrollton Avenue main; and the Carrollton Avenue main connected with St. Charles Avenue main and Napoleon avenue is a short strip running down to Fischer's saw-mill—connected with those three.

Q. Fischer's saw-mill did the pumping for them; is that it?

A. To the best of my knowledge, yes.

Q. Did you ever see people arrested that were caught stealing water?

A. No sir.

Q. How many sizes of hydrant has the water works Co.

A. How many sizes of hydrants?

Q. Yes, how many different hydrants.

1108 A. Different sizes?

Q. Yes. Sizes of nozzles.

A. Two.

Q. Only two?

A. Yes sir, that is all that I ever discovered.

Q. About how long have those two different sizes been in use?

A. Two and one-eighth inch is the old city nozzle; there is four

different kinds of plugs has this nozzle and the 2 and ½ is our latest improved Holly and double Holly.

Q. There has been no attempt, since the city council adopted an ordinance in 1885 for a uniform nozzle, to supply it, has there?

A. None that I know of.

Q. You knew of that ordinance, didn't you?

A. No sir.

Q. What is the size of main down Second street from St. Charles to Dryades?

A. Second street?

Q. Yes.

A. Six-inch, I think.

Q. You are sure of that?

A. Almost positive, I am not positive.

Q. You are about as sure of that as of everything else you have stated here, as to the size of mains?

A. Yes sir, I am not positive about that, but I think it is a six on Second.

Q. Think a moment; is there any there at all?

A. Between St. Charles and where?

Q. On Second, between St. Charles and Dryades?

A. Well, I cannot exactly say; but I think there is a pipe there.

Q. In giving the size of pipes here, do you mean to say you have measured the size of all those mains in the ground?

1109 A. I became familiar with them through repairing them, repairing leaks here and there and changing the plugs.

Q. About how many mains are duplicated—in other words how many streets are there in which there are two mains on the same street?

A. Tchoupitoulas from Poydras to Canal has two mains a six and ten inch. Poydras has two mains a 4 and a 20 from Magazine towards Tchoupitoulas, and from Magazine to Camp and Camp street has two mains an 8 and a 30; those are the only mains.

Q. From where?

A. From Race street up to Canal is an eight and 30 and from Canal down is 8 and 30; with the exception of a short stretch between Canal and St. Charles that has been destroyed by the drainage company's canal.

Q. Are there two on State street?

A. Not that I know, sir. There is pipe running up from Chestnut, up State to St. Charles avenue; one pipe.

Q. What became of the old one; was that taken up?

A. I don't know of any; there may be some private service pipe there that I don't know anything about.

Q. Can you give us about how many miles, or feet of pipe are duplicated, in other words that have on the same street two pipes—on the same street.

A. No sir.

Q. What is the size of pipe up Race street?

A. Thirty-six inch from Peters, or from Tchoupitoulas up Race to Camp, is thirty-six-inch main.

Q. Well, then from Tchoupitoulas up to the works?
A. It is thirty-six, right into the works.
Q. Right up to the works?
A. Yes sir.
Q. Is that the same pipe running to the river?
A. No, sir, that is the supply of the city, other pipes are suction pipes that go to the river.

1110 & 1111 Q. What is the size of the largest service pipe you have?

A. The largest cast-iron service pipe——
Q. That you have?
A. That is the Race Street main.
Q. The what?
A. The Race Street main is the largest, thirty-six-inch.
Q. Then, the whole city of New Orleans is supplied through that main; is it?
A. No sir, we have other outlets. Q. We have other outlets; that is only one of them.
Q. How many, from the pumping works?
A. There is an 18-inch main goes out of Richards street, head pumping works, and 30-inch main goes out Tchoupitoulas street right in front of stand-pipe.
Q. Now, what mains does the Richard Street main feed—Poydras St. main?
A. Yes sir. Poydras Street main connects to Tchoupitoulas street, 16-inch main on Tchoupitoulas runs off Richards, connects into Magazine and Felicity and along in there somewheres.
Q. What is the size ma-n on Magazine street?
A. Eight-inch main at Magazine and Felicity.
Q. Have you got all the service pipes that come out of the pumps; all the delivery pipes?
A. I don't know, I am not acquainted with all of them that come at that point, the chief engineer can give you that.

By Judge BECKWITH:

Q. You carried this gauge, that you took the pressure with, back to Mr. Orrell, didn't you?
A. Yes sir.
Q. The form of the gauge, I suppose, was the ordinary form of a steam gauge.
A. Yes sir.

1112 Q. Reading from how many pounds, do you remember whether it was 50, 60 or 100?

A. It was a hundred-pound gauge.
Q. A hundred-pound gauge?
A. Yes sir.

E. B. HANDS, recalled for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. To your knowledge the meter produced the last time you were on the stand and marked "Defendant New Meter" was a new meter of the same make and size——

A. As the old one—yes sir.

Q. Will you look at the meter now marked "New Meter" and state if that is the same construction, order and size of meter?

A. Yes sir, it is the same size and make as the old meter.

Q. Do you know on whose premises, or what consumer of *of* the water of the water works company, used the meter marked "Old Meter."

A. Yes sir; it came out of Cusach's drug store, corner of Canal and Baronne.

Q. How long had it been in use?

A. Well, I could only guess at that, I should say 4 years.

Q. How long have you been in charge of the meter bills, and collection, and reading meters for the water works company?

A. Since November, 1892.

Q. You had sole charge of it?

A. Yes sir.

Q. Had there been meters in use, prior to your taking charge of that service?

A. Yes sir.

Q. Do you know how long?

A. Well, as far back as I can recollect, it was in 1888, the first meter was installed on that date.

Q. Will you tell us whether a meter, as installed, begins to
1113 show errors early or do they register comparatively regularly for some time?

A. Well, I should say up to six months, with the average consumption, any meter will show wear, to a certain extent.

Q. Have you examined the meter bills that have been produced in evidence in this cause and are on file?

A. Yes sir; I have examined each one.

Q. Can you state whether they were all made during the time of your relations with the company, in charge of the meter department:——

A. There are a few made in the year 1895, six months that I wasn't with the company.

Q. Will you state how reading of the meters are taken; how the records are made, and how often.

A. We take them at end of each month approximately; near the end of each month.

Q. How do you *ontain* the record, have you cards?

A. Yes, we have a little tablet, a copy of the dial, and on this we leave a copy with the consumer.

Witness produces a blank copy of meter card, showing dials, and marked "Hand 1."

Q. Now, in making the record on this card, how do you make it on the various dials?

A. We make an exact duplicate of the dials on the meter.

Q. That is, you make a mark on each circle?

A. Each circle.

Q. Where the index, or dial hand, is, on the meter at the time you take the reading?

A. Yes sir.

Q. Will you now state how you reduce the cubic feet the meter registers, to gallons?

A. Well, when a meter was first tested it rose to 7½ gallons, to the foot, which was correct on the meter—an accurate meter,
1114 but when a meter is wearing to a certain extent, it is reduced to so many gallons to the foot, saving an extra amount of labor, and making it easier for the consumer to understand the amount of water he is paying for per foot.

Q. That is, instead of adding a percentage for unregistered water passing through a meter, you charge the multiple.

A. 7½ to the card amount.

Q. How do you arrive at the amount of that multiple?

A. Well, in some cases, directly from the test; we draw water through the meter by measurement and the amount measured from the register of the meter per foot, is the amount of gallons that the consumer is getting, per foot.

Q. Will you explain how you measure?

A. Well, in some cases, when we test at premises we use an ordinary gallon measure, and we draw one cubic foot by registering the meter and the number of gallons drawn is the number of gallons that we use to multiply the gallonage.

Q. What do you do in other cases?

A. Well, when they are tested new, we test them by the tank, five-hundred-gallon tank at the pumping station; in that way we just merely make a secondary test from the factory; before they send meters out, the- regulate by actual weight of water; we just merely corroborate that test.

Q. That is before the meter is installed.

A. Yes sir.

Q. But after the meter is installed, do I understand you that you get the multiple by an absolute measurement of water out of the meter, until the meter indexes a cubic foot?

A. Yes sir; that is the small meters, the large meters, where the smaller dial is a ten-gallon dial, we have used the fifty-gallon dial to make it more accurate.

Q. In making this test, you shut off beyond the meter, so
1115 as to make sure that it is registering water through the meter in the general distribution through the house?

A. Yes sir; that has to be done, otherwise they would lose that amount of water; that would be in favor of the consumer if we should allow a thing of that sort to happen.

Q. In examining the bills that represent charges by meter meas-

ure for water, that have been filed in this case; did you find them correct, all the way through?

A. Well, sometimes I found that bills were multiplied by 7 and ½ and a certain per cent. added after the multiplication was made.

Q. Was made during your administration?

A. Yes sir.

Q. How did you arrive at the percentage to charge?

A. To the consumer.

Q. What advantage is there, so far as dealing with the company is concerned, in the method of charging the multiple per cubic foot over the old system that you had.

A. Well, the majority of consumers I found, were very ignorant and I couldn't get them to understand, or be willing to allow the meter to be in place and to add a certain per cent.; they seemed not to understand it, and to make it easier for them to understand it, to show them accurately, before their own eyes, that they were getting so many gallons for every foot that registered on that meter——

Q. When making these tests of the amount of gallons required to move the indicating device on the meter one foot, did you notify the consumer that you were to do it.

A. Yes sir; they are generally present when I do it.

Q. When you have ascertained the amount of error in a meter by the reading of the meter, do you leave any memorandum with the consumer?

A. Yes sir; if he is not present I leave a memorandum—otherwise he is present and knows the test and agrees to pay that
1116 rate, rather than go to the expense of having that meter repaired, or a new one placed.

Q. Now, will you tell us, what would be the inconvenience, trouble, or expense to a consumer, if, instead of making these allowances of error in registering, you required him to correct the meter, repair it?

A. Yes sir; without paying that per cent., we would have to have the consumer repair his meter about once in six months, or say every two years we would have to have him buy a new meter.

Q. Is the repair of one of those meters, likely to involve the party in any considerable expense?

A. Yes sir. The repair of a meter is about one-fourth of its value;——

Q. Do you remember the meter installation, or service installation at Tulane Medical College building on the corner of Canal and Villere streets?

Q. Yes sir.

Q. Do you remember about when it was installed there?

A. The three-inch meter was installed when the building was erected I forget exactly what year—I think it was 1893 or 1894.

Q. There was a three-inch service to the building, was there not?

A. Yes; there was a three-inch meter.

Q. The three-inch meter was introduced, I suppose in service——

A. Yes sir.

Q. Near the building.

A. Yes sir, it was inside the premises of the building.

Q. Where was the shut-off cock, or valve, that would shut off the water of the building?

A. The three-inch valve was placed between the meter and the inlet to the building.

Q. How long did that three-inch installation remain there?

A. About one to two years, I will say two years.

1117 Q. Do you remember what the general size of the distribution pipes in that building is—that water has to pass through *went* it goes into the building, before it goes to the various services for use?

A. Yes sir; from our mains I should say the three-inch pipe extended for three or four hundred feet——

Q. Within the building, I mean?

A. Within the building, before it divides into smaller pipes, it would be about two hundred feet.

Q. Did any trouble come from the use of that three-inch meter; would it get out of order, or anything?

A. Yes sir; the slow consumption that they have there, with the three-inch pipe and three-inch meter, allowed the water to settle and clog this meter, and also the pipes.

Q. Settle back in the distribution in the house?

A. Yes sir.

Q. Well, what was the expedient resorted to to avoid that?

A. Well, we proposed to Dr. Chaille to have this three-inch meter removed and to have the small meter, the three-quarters meter with a by-pass put in around the three-inch valve to make an accurate test of the consumption of their water.

Q. What was done with the three-inch valve; was it sealed?

A. The three-inch valve was sealed, with an ordinary car seal; so that the water, in order to get into the building, came up in the three-inch cock with the by-pass around it.

Q. And the meter was installed in that by-pass?

A. Yes sir.

Q. Do you remember the size of the cock in that by-pass?

A. ¾ pipe.

By Mr. FORMAN:

Q. Three-quarters of an inch?

A. Yes sir.

By Judge BECKWITH:

1118 Q. How long did that installation remain?

A. Since that time; it was changed up to three-inch the 30th of November, 1899.

Q. How was it possible that such a change could prevent the large-size pipe in the building becoming the depository of sediment.

A. It would act as an ordinary tank and would settle the water

for the whole building; the velocity wouldn't be strong enough to carry any deposit off—only at times.

Q. Therefore, the water was fed into that three-inch system of pipes through the ¾ pipe from the three-quarter service?

A. Yes sir—three-inch.

Q. I mean the three-inch pipe, through the three-quarters service.

A. Yes sir.

Q. Changing the pipe in the building then, would operate as a sort of settling tank, wouldn't it?

A. Yes sir.

Q. When was that meter taken out; that three-quarters meter?

A. Well, the students and the dean also complained at the amount of sediment they would get through opening the ¾ faucet, on account of carrying the deposit off; and this was explained to the dean and he proposed having the three-quarters meter taken out and allow them to use the water through the three-inch, and they pay an average rate for the last 12 months that the meters registered.

Q. What did that amount to, as a flat rate?

A. The flat rate was fixed then, for one year at $170; that was amount paid for the last twelve months on the meter average.

Q. Has there been any complaint, or much complaint of sediment in that building, since they took out that construction of ¾ pipe and took water from the main service?

A. No sir; no complaint since that time.

1119 Counsel for defendant offers, introduces and asks to be filed in evidence document marked "Hands 1."

Q. Did you and Mr. Heck, who is employed in the office of the water works company, either separately or together, make any investigation of the records of the water works company to ascertain, if possible the earliest installation of meters since the company had taken charge.

A. We did.

Q. Did you make a report upon that and the general water supply of the St. Charles hotel, the St. James hotel, and Maginnis oil & soap factory?

A. Yes sir.

Q. Please look at paper, marked "Defendant's Offer No. 27" and state if that is the report and if your name is signed to it, and whether the signature of Mr. Heck, which is attached, is the genuine signature of Mr. Heck?

A. Yes sir; those are the two signatures, Mr. Heck's and myself.

Q. Did you jointly with him, examine the books and get that data from them?

A. Yes sir.

Q. Are you satisfied that it is correct?

A. Yes sir.

Counsel for defendant offers, introduces and asks to be filed in evidence report marked "Defendant's Offer No. 27."

Plaintiff's counsel object, on the ground that it is not the best evidence and contains only what the witness reports to have found, or not found by an examination of the books of the defendant company.

Q. From what books did you extract this information?
A. From the ledger, during those dates, which included every entry that was ever made during those dates.

Q. Are those the books which were called in here by a
1120 *subpœna duces tecum?*

A. I couldn't say positively.
Q. Look at them; there they are?
A. No sir, those are not the books.
Q. The books are not there?
A. No sir.

The offer is temporarily withdrawn.

Q. Have you made any meter tests recently; within the last few days?
A. Not personally—no.

Reserving the right to recall the witness in connection with the books he is temporarily withdrawn and the State reserves its right to cross-examine the witness when defendant is completely through with him.

Counsel for plaintiff asks witness when he makes search for the books again that he look for the receipt given by the water works company to the city, when it got possession, and see whether it did not include a vast number of meters.

T. E. ORRELL, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your occupation?
A. Engineer.
Q. Are you a steam engineer?
A. Yes sir; in charge of the steam-engine at the water works?
Q. How long have you been in charge of, or connected with the steam-pump installation of the New Orleans Water Works Co.?
A. Fifteen years.
Q. What relation did you have to the work when you first went there, what was your employment?
A. As assistant engineer.
Q. At the works?

A. Yes sir.
1121 Q. That would be in what years?
A. From 1880 to 1885.

Q. After 1885 you became chief engineer?
A. Yes sir.
Q. What were your duties as assistant engineer there, for the period you filled that place?

A. In running the Knowles and auxiliary steam pump for a while; then in running the main engine.

Q. Will you give us a description of the pumps at the pumping station, at the time you became the assistant engineer there; giving the general sty-e of the engine; size of the water cylinder and pumping capacity of each engine.

A. Well, the Knowles is a double-acting pump, six-million pump of 28 inches diameter; three-foot stroke. The old engines were beam engines; the onld engines were 22½-inch diameter, six-foot storke, double-connected engine; double-acting pumps, 14 millions capacity.

Q. Were those dimensions you gave the dimensions of the water cylinders, or the steam?

A. Water cylinders. Now at the time previous to the installation of the Allis pumps; the old beam engine—no, it was called the new beam engine at the time, 28-inch diameter, eight-foot stroke, double-connected engine, double-acting pumps, 20 million gallons capacity.

Q. Was the engine, at that time termed the "new beam engine" capable of being detached on one side, so as to run one side alone?

A. Yes sir.

Q. When the engine was detached and acting upon one water piston what was its rate as compared with rate of delivery of the engine when both pumps were connected.

A. One side was rated at twelve millions was capable of pumping twelve millions.

Q. Why was that rate increased; did it increase on disconnection?

1122 A. Because it had the advantage of the velocity and the suction pipe on one side—being slowed on one end, as against two.

Q. Both pumps acting then upon the suction mains, drag the water more?

A. Yes sir, very great deal more so than one would.

Q. Now, tell us how long it was after you went there; or rather—give us the date of the installation of the two Allis engines in place of the old—what was called the old engine or pump for the period you first went there. Give it as near as you can.

A. Installed about February or March of 1893.

Q. Will you just give a description of those engines?

A. There are two engines—each about ten million gallons capacity.

Q. Are they capable of delivering that water?

A. Yes sir.

Q. What kind of engines are they, plunger, or what?

A. Outside-packed plunger.

Q. Going back to the period when you were first connected with that plant, what was the displacement, or amount of water thrown by what was then known as the old pump—per revolution?

A. About 460 gallons per revolution.

Q. How many revolutions of that pump could be made with safety?

A. As high as 17 revolutions per minute.

Q. What is displacement, or rate of delivery of the engine that was known as the new beam engine at that time?

A. The displacement was one thousand gallons per revolution—double-connected engine.

Q. Then it would be a little over 500 when running one side?

A. Yes sir.

Q. How many revolutions could be made with that engine, with safety in a minute?

A. Running double 13 to 14 revolutions per minute; running single, 18 per minute.

1123 Q. Each pump of the new installation has three water cylinders, has it not?

A. What is that, sir?

Q. There are three water cylinders on each one of the new Allis engines are there not?

A. Yes sir.

Q. What is the total displacement, or delivery of water, per revolution on each one of those pumps of the Allis engine.

A. Per revolution of each engine?

A. Yes sir.

A. 231 gallons per minute.

Q. Double that, when both are in service?

A. Yes sir.

Q. How many million gallons of water, at the average stage of water in the river, can you deliver into the city main from the two Allis engines in 24 hours?

A. Twenty-four million gallons.

Q. Do you remember the fire spoken of here, as the cotton fire, that occurred somewhere in the vicinity of the water-works plant in 1892?

A. Yes sir.

Q. Were you at the water pumping station at the time that fire originated?

A. Yes sir.

Q. What pumping engines were then in operation, or capable of operation, those just now described as existing prior to the installation of the Allis engine.

A. Yes sir; the old beam engine.

Q. And the new beam engine also, wasn't it?

A. Yes sir.

Q. Having all three of those pumps in service, how much water could you deliver into the mains, with all three pumps.

1124 A. Thirty-six million gallons—thirty-two million gallons.

Q. When did you first know of the fire; what means had you of knowing it?

A. I saw it from the window through the engine-room; before the alarm was turned in.

Q. Is the city fire-alarm system connected with the water-works plant?

A. Yes sir.

Q. So that signals come in from all the districts?

A. From all these lower districts.

Q. Are there any district- of the city, that are not connected with it?

A. The sixth district fire-alaram system.

Q. Has never been connected with it?

A. No sir.

Q. How long after you discovered this fire was it before the alarm came in?

A. It was some ten or fifteen minutes, as near as I can remember.

Q. Will you tell us whether the alarm coming in the water-works pumping station indicates anything more than the locality of the fire?

A. No sir; nothing at all; it just indicates the locality.

Q. It would give you the box from which the alarm came?

A. Yes sir.

Q. What pumps had you in service at the time that the cotton fire broke out, and you first saw it?

A. The old beam engine and later on the half of the new beam engine, and the Knowles pump.

Q. When you saw the fire, did you go to the fire to see whether it was likely to be a large fire, or not?

A. Yes sir, I did; I went down to the fire; it was only a square and a half below the works.

1125 Q. What condition of things did you find there?

A. I saw some of the cotton bur-ing in the street, that was covered with tarpaulin; didn't appear as though it was going to amount to anything at all I saw the doors of the fire-proof press begin to burn; when I saw them burning I went back to the pumping station to prepare to — them almost any supply that I could.

Q. You put all the pumps in order?

A. Yes sir.

Q. Do you remember what your pressure was, at the time the fire broke out?

A. We maintain a regular pressure—I think it was a sixty-five-foot head we carried at the time; 60 or 65, I am not certain about that, and about somewheres around twenty minutes to half an hour after the fire, the pressure fell to about thirty feet; that is as near as I can remember; remained there for a very short while; I got the other machinery under way and got it to its regular hydrostatic head, and remained at that.

Q. At what rate of pumpage per minute were you sending into the mains, during the time the fire was burning?

A. I can't exactly say; but it was somewhere very near a 30-million rate.

By Mr. FORMAN:

Q. You don't mean thirty million per month?

A. No sir, in twenty-four hours; the rate pertains to twenty-four hours.

Q. Was it not very windy weather?

A. Very high wind that day; I remember that part of it very distinctly.

Q. Another fire broke out on Magazine street on the same day?

A. A fire broke out uptown; I couldn't say exactly where it was located; it was about 11.20—twenty minutes past eleven, that same morning.

Q. When the alarm came in from that fire, into the works?

1126 A. Yes sir.

Q. Had you your pumps all in at the time?

A. Yes sir; they were all in at that time, at 11.20, because that was the hour, about twenty minutes after the cotton-press fire had started.

Q. Did the draught for the second fi-e pull you down in pressure?

A. No sir.

Q. Will you explain to us, how the pressure is maintained at a given height by the pumps of the water works?

A. It is maintained according to the demand on the water; if the demand increases why the speed of the pumps is increased to maintain the pressure constantly or as near constant as can be.

Q. You have a stand-pipe, adjacent, or near to the water works?

A. Yes sir.

Q. Connected with the mains?

A. Yes sir.

Q. The pressure of the water-works system of the city depends upon the height of the water column that you keep in that stand-pipe?

A. Yes sir.

Q. Take it in ordinary times; when there are fires to make extraordinary calls for water, is the call regular, or irregular. Varying or certain all day?

A. Sometimes it is very irregular; very.

Q. That irregularity has to be met by the engineer by increased altering or changing the speed of the engines, speeding or dropping the speed as the gauge reads?

A. Yes sir.

Q. Did you have any difficulty after that second fire had broken out, in maintaining a steady water column in the stand-pipe?

A. No sir, I did not, I had dropped out one pu*pm* at three o'clock that afternoon, didn't have any use for it.

Q. What would be the result, or the danger that would come to the water-works system with the supply of water demanded by the city, if you kept your engine going at the same speed that

1127 would be necessary to supply the large demand—what danger would result; what would occur?

A. Well it would either burst some of the mains, or stall the pumps.

Q. Therefor- will you state whether it is not true that very great vigilance is required at the engines to prevent the water getting high enough to be an excessive strain on the works, when the pumps fall off?

A. Yes sir, they do require a great deal of vigilance.

Q. Do you remember an alarm having been sent in, for the fire on Tchoupitoulas street, called in this case the Morris fire?

A. Yes sir.

Q. Do you remember at what time that alarm came into the water pumping station?

A. I think it was 7.40 p. m. I am not so certain about that, because there were two Morris fires, this happened at 7.40 p. m. I think it was on the 14th of August.

Q. What year, do you remember?

A. 1896.

Q. The Allis pumps had then been installed?

A. Yes sir.

Q. Do you remember what pumps were in operation and sending water into the mains at the time that alarm came in?

A. Yes sir.

Q. What were they?

A. That beam running then was the improved compound engine.

Q. That is what used to be known as the "new beam engine."

A. Yes sir.

Q. The old beam engine had been removed, hadn't it, when the Allis was installed?

A. Yes sir.

Q. About how long had that engine been compounded at that time?

1128 A. It has just been compounded and was under test at the time by the people who remodeled it—compounded it.

Q. Was it under test to determine whether it would reach the guaranteed amount of delivery into the main?

A. No sir.

Q. Or for a trial test?

A. Preliminary test.

Q. Do you remember whether you were running that engine at the time with a by-pass open around it?

A. Yes sir.

Q. Was the by-pass open around it?

A. Yes sir.

Q. Will you explain what a by-pass is?

A. A by-pass, in that respect, was to relieve the capacity of the engine, which was entirely too great for the demand of the city at the time.

Q. Yes, but I asked you to describe it; describe what it is?

A. It is a pipe running from the delivery side of the pump around to the suction side of the pump, so that the water may be run around——

Q. And picked up again, instead of being sent into the main, isn't it?

A. Yes sir.

Q. What is the size of the by-pass connected with that engine?

A. An eight-inch.

Q. At the time you spoke off was the valve in that by-pass open, and the water passing around?

A. Yes sir.

Q. You were supplying the city then and sending this eight-inch stream around into the suction side—was that being done with the beam engine alone, or were you running the Allis engine at the time?

1129 A. The beam engine alone.

Q. How long does it take to start that Allis engine from rest into pumping, when the suction is full?

A. About five minutes.

Q. Did the test of the beam engine, as it has been compounded—prove during that fire?

A. Yes sir.

Q. Did you have occasion to close the by-pass?

A. Yes sir, I did close it.

Q. You closed it as soon as the alarm came?

A. Yes sir.

Q. Do you remember at what rate you were running that engine during the fire?

A. Yes sir, I do remember it very well—distinctly; it was a 23-million-gallon rate. Twenty-three million in twenty-four hours.

Q. What trouble, if any, did you have during that fire in maintaining the water-column head in the stand-pipe?

A. Didn't have any trouble in maintaining that specially.

Q. Did you have to throw in the Allis engine?

A. No sir.

Q. How long did that draft, requiring the entire sare of the compound beam engine continue from the time you got the alarm until it was rung out?

A. I don't know, I couldn't say; I just timed the engine, seeing it running at such a high speed at the time.

Q. You don't remember when you got the signal that the fire was out?

A. No sir.

Q. Was there a great deal of water used there the next day, too?

A. Yes sir.

Q. Now, what is known as the second Morris fire, so described here, do you remember that?

1130 A. Yes, I remember some instances of it.

Q. Was it before, or after the fire you speak—spoke of last, when you were running——

A. After the fire—in December.

Q. Do you remember what increase you had in service when that alarm came in?

A. Yes sir.

Q. December of the same year?

A. December of the same year, 1896.

Q. Will you please tell us what engines you had in the pumping station when that alarm came in?

A. I had the two Allis engines in service.

Q. What time of the day was it, as best you can remember, or night?

A. Some time during the night.

Q. About what, at that time, was the normal supply, or the normal demand for supply in the city, between six at night and six o'clock in the morning; when there was no fire.

A. About four million gallons, during the twelve hours of the night, between that and six in the morning.

Q. Were you supplying that with one Allis engine, or both?

A. One Allis engine.

Q. You didn't have to run very fast at that, did you?

A. No sir.

Q. You didn't have to crowd much?

A. No sir.

Q. How long did it take you; after you learned the necessity for it, to throw the second Allis engine into service?

A. About two minutes that can be done; because one Allis engine on the same suction pipe has the condition established for the other engine, and it can immediately come in; if I had to start with suction pipe filled; and no engine running on it, it would be about five minutes.

1131 By Mr. FORMAN:

Q. Suppose the suction pipe wasn't filled?

A. Generally have that condition existing.

By Judge BECKWITH:

Q. That is, you would be required to furnish the suction in order to get a vacuum, if one pump wasn't working on the same suction?

A. It would take that long to start that column of water into motion.

Q. Do you remember how long, after the alarm came in that the gauge pressure indicated increased call for water?

A. Well, as near as I can recollect I think something like 20 minutes after the alarm.

Q. Before you had to speed the engines?

A. No sir, when the pressure indicated a slight falling off.

Q. How long were you able to maintain the pressure that night, with one new engine; do you remember?

A. No sir, I don't remember that exactly.

Q. Do you remember when it became necessary to put in the second Allis engine?

A. Yes sir.

Q. With the two engines in, were you able to maintain the pressure?

A. Yes sir.

Q. Didn't get away from you at all?

A. Well, it just filled for a few minutes; indicating that something very large was happening suddenly and in a very little while

the machine speeding up brought the pressure back to its regular static head, and maintained it throughout.

Q. Did you at any time, during that fire, in maintaining the pressure reach the maximum capacity of both engines?

A. I don't remember that part of it exactly; couldn't say.

Q. If the necessity had demanded it you had the agency there in both engines to send a twenty-million rate *per diem* into the mains?

1132 A. Yes sir.

Q. Do you remember about how long that fire lasted?

A. No, I don't exactly remember how long it lasted; it lasted more than a couple of hours.

Q. Do the fire department, or anybody in the fire department give you any indication of when they are closing wells, or when the demand for supply ceases after the ringing of the bell?

A. No sir.

Q. Can you tell whether it is true, or not, that after a demand for water is discontinued after you get a signal of "fire out" whether the wells are closed promptly, or not?

A. No sir.

Q. You have to stand by and watch your engines; to see whether they are laying off, or not?

A. Yes sir, and watch very closely at that particular time, when they are shutting off, always.

Q. The safety of the works depends on vigilance, does it not?

A. Yes sir.

Q. Do you remember the cork factory fire, described as such in this record; that occurred on Tchoupitoulas street, or in that vicinity?

A. Yes sir.

Q. Do you remember at what time that alarm came in?

A. No sir, I don't remember the time, but I have some memorandum of that particular fire.

Q. Got them with you?

A. Yes, I think I have.

Q. Where was it taken from?

A. Taken from the detailed engine record; that is the original engine records that I pick up daily.

Q. Will you get this record and see—are they made in your own handwriting?

1133 A. Yes sir.

Q. At the time?

A. Yes sir.

Q. In a log, as it were of the pumping of that day?

A. Yes sir.

Q. Will you examine that memorandum and see if you can be definite about it?

By Mr. FORMAN:

Q. When was that paper you have in your handwriting made; that particular paper?

A. Last month some time.

Counsel for plaintiff object, and demand the production of the original entries made by the witness.

A. This is copied from the original.
Q. I want to see the originals.
A. I can produce them.

By Mr. BECKWITH:

Q. Get the originals.

Witness produces documents and says:

A. This is the original data that is written in the log on the day of the occurrence. "Fire, box 74, Natchez & Tchoupitoulas. 7.10 Leaumont cork factory. Monday, December 6th, 7.10 p. m. 1897. Knowles pump in at 7.55—, both Allis pumps in at 7.20 p. m." Both Allis pumps were in during the fire and the Knowles pump was put in in addition.

Q. Does your memorandum show where the alarm was rung off?

A. No sir; not in this particular memorandum, but they are generally shown; it is not in this particular memorandum.

Q. Is that your log memorandum that you keep every day for the 12 hours, or the 24?

A. For the twenty-four hours; divided in two services; night service and day service.

Q. Will you please, if you can from your memorandum, or
1134 record, tell us what was the total amount of water pumped that day, or for twenty-four hours.

A. Well, I would have to add it together. It is here 12 hours the day and 12 hours for the night.

Q. What was it for the daytime and what was it at night?

A. 6,743,072 gallons during the day—that is wrong—my engine laps over on two days, and it is a little bit confusing to get it exactly right; she begins at six o'clock this morning and ends at six o'clock tomorrow morning—that takes in two days—I have made a mistake, I can give you the previous reading. It reads for the day of the fire 6,918,450 gallons for the 12 hours, day——

Q. For the daytime?

A. Yes sir.

Q. What does it read for the night?

A. There is an addition to come to that from the Knowles pump (they are separately installed engines) and this addition 891,054 gallons; for the night 6,209,000, in addition to that 995,802.

Q. That makes a total of how many gallons?

A. 15,015,048.

Q. You are unable to tell us how much of that was pumped from six until six o'clock the next morning?

A. I have a memorandum of that fire from 6 to 6 *o.* m. pumped 7,205,000 gallons, that is, during the 12 hours in which the fire occurred and for the 12 hours previous, on the ordinary demand 5,256,000 gallons.

Q. Were there any fires on the day before?
A. Yes sir.
Q. How many alarms on the day before?
A. On the day before the fire?
Q. On the day before this reading.
A. 5,250,000——

Q. But were there any alarms of fire sent in on that day?
1135 A. My record will show it (witness refers to memorandum). Yes sir %. and 5.12 and 5.50 general alarm 5.55 p. m.

Q. That is the day before the fire, you are speaking of?
A. Yes sir.
Q. Look along through your record to a day either before or after it, where the record is clear of a fire-alarm and see what the pumping was then?
A. Some few days previous to that wouldn't be a fair comparison, because the beam engine was being tried preliminarily then and we were wasting a great deal of water, and the conditions were not what would be ordinarily required.
Q. G-e the first day that you can find close to it of normal demand, without a fire?
A. I find one Friday, December 10th, 1897. 6,197,000, twelve hours the day, 4,190,000, twelve hours for the night.
Q. About what was your normal night demand, at or about the time of the fire?
A. Normal demand was about 4 and ¾ million gallons, for the 12 hours of the night.
Q. The excess of the night then, over the normal, would be what in gallons, the night of the fire?
A. 2,455,000 gallons.
Q. Do you remember; have you any memorandum about the fire known as the Schwartz fire, corner of Canal and Bourbon streets?
A. No sir.
Q. Do you remember the fire; do you know the date, there don't seem anybody to know the date?
A. No sir, I have no recollection of the Schwartz fire whatever. Mr. R. E. Craig says it was February 17th, 1892. I have not got any of those original records previous to——
Q. What?
A. I have not got any previous to 1894.

Q. Well that was the burning down of a large dry-goods
1136 store at corner of Bourbon and Canal, destroying a large amount of property there; have you got any record of it, anywhere with you?

A. Yes, I may find it in the log book.
Q. Get your log book.

1137 Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for defendant, in above entitled and numbered cause, taken in open court the 11th day of January, A. D. 1900, before the Hon. Geo. H. Theard, judge.

Present: Messrs. B. R. Forman, James J. McLaughlin and C. C. Frederichs, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, and Howard McCaleb, for defendant. Branch K. Miller, for Board of Liquidation.

T. E. ORRELL, having been previously sworn, continues his testimony, as follows—

Direct examination by Judge BECKWITH:

Q. Did you find the record of the days' pumping and of the operation of the pumping station?

A. Yes sir.

Q. What does your record show?

A. The record shows that the 12 hours during the night of February 17th pumped 5,011,136 gallons of water, that was, during the time of the fire.

Q. Have you anything in your record to show at a time immediately before, or after that date; the normal call for water in

1138 those hours?

A. Yes sir, have on February 15th—the previous day to that wherein there was an ordinary demand for the 12 hours, 3,462,000 gallons.

Q. Will you please look at blue-print sketch marked "Defendant's Offer No. 22," being blue print of stand-pipe in the water distribution and state if that exhibit represents the offices—functions—relation of the stand-pipe in the system of water distribution?

A. Yes, this blue print presents a very fair representation of the services of the stand-pipe.

Q. And its relation to the water-distribution system?

A. Yes sir.

The document referred to is offered, introduced and asked to be filed in evidence, by defendant's counsel, being document marked Defendant's Offer No. 22.

Q. How far back have you got this memorandum of the operations of the pumping station of the defendant?

A. Some of them as far back as 1894, and some others in regular books, data and memorandum dating back to 1886.

Q. Are there regular records kept by you of the operation of the plant?

A. Yes sir.

Q. Will you explain the recording pressure gauge as well as you can?

A. The recording pressure gauge is similar in system to the ordinary gauge used for showing pressure, with the exception that it records its pressure daily during the 24 hours.

Q. There is a heavy dial that revolves the card attached to the gauge once in twenty-four hours?

A. Yes sir.

Q. Now, what recording device is there the pen attached to
1139 the moving part of the gauge, indicating pressure?

A. Yes sir.

Q. Is that pen inked?

A. Yes sir.

Q. How is the gauge sheet, or chart marked?

A. It is graded in a circle around—in circles representing the pressure and in radial lines graded, representing hours.

Q. Is that gauge attached to a clock device, so as to move with the clock in recording the hours?

A. Yes sir.

Q. How far back have you this log gauge and dials?

A. As far back as 1894 and there are some of them in 1894, for about four months.

Q. About four months of the record was taken from the plant and produced in evidence in the filter contract suit, were there not?

A. Yes sir.

Q. Have they ever been returned—that is the company's records?

A. No sir; not to my knowledge.

Q. You say you have some of those here in court?

A. Yes sir.

Q. Does each charter, or dial register the day of the month and year on which it is taken?

A. Yes sir; they are marked to that effect.

Q. Will you please tell us how far from the ground the gauge was located from which this record was taken?

A. Some three feet above the ground.

Q. Then three feet should be added to the column indicated on the dial, to indicate the suitable water column at the works?

A. Yes sir.

Q. Will you examine the fourteen books that are now presented to you and state whether they contain the dials of the sheets from the automatic gauge record, as they come of the gauge?

1140 A. Yes sir, I have examined one book, from July 11th, 1897, to November 6th, 1897.

Q. After examination do you find them to be the automatic gauge record for the dates named in the records?

A. Yes sir.

Q. About what time of day is the card attached, and what time does each one of these cards begin to register.

A. Twelve o'clock noon.

Q. And register them through that day, until 12 o'clock, the next day?

A. Yes, sir.
Q. The card shows the hours and minutes of the record?
A. Yes sir.

Counsel for defendant offers, introduces and asks to be filed in evidence the fourteen books, concerning which witness has testified, to be designated as "Orrell, Record of Automatic Pressure Gauge Numbered from 1 to 14 Consecutively and Inclusively."

Q. Prior to using the recording gauge, which recorded the pressure at the works, how was that record kept?
A. It was kept by noting the static head throughout the day—taking a note of it, and marking it down on the engine records?
Q. Was a record of the revolutions taken—the revolutions of the pumps?
A. Yes sir.
Q. Have the pumps attached to them what is known as an automatic gauge?
A. Yes sir.
Q. The record of the revolutions then, is taken from the counter on the dials of the pumps, as they are in use?
A. Yes sir.
Q. Have you those records here?
A. Yes sir.
Q. Have you got them with you?
1141 A. Some of the original dials taken up out of the engine record books.
Q. You kept it in the form of a regular book at one time?
A. No sir, never kept the resolutions in a regular book.
Q. Well, what did you keep in the log book, total amount of pump——
A. No sir, just ordinary occur-ence through the day *a* and the engine record has an account of the revolutions; that is sent to the office weekly.
Q. Do you keep in your records, or memorandum at the works, anything relating to that data?
A. No sir, only occasionally; whenever some unusual circumstance occurs.
Q. What were those papers you presented yesterday, or dial books—what are they?
A. Those are the dial back as far as 1894; they contain the gauge, list of the revolutions and pumping.
Q. Have you any record back of 1894?
A. No sir, not in that form.
Q. What form is it in?
A. In sheet form, turned into the office; previous to 1894 it was kept on slips of paper, similar to this, but a great many of them were thrown away.
Q. Well, how many books, of the data that you refer to, have you here with you; to what period do they relate?
A. There is four of them date back as far as 1894.

Q. Were—are they in your handwriting?
A. Yes sir,—original.
Q. Taken at the time?
A. Yes sir.
Q. Are the four books which I now present you, the four books to which you refer in your answer?
A. Yes sir, those are the four books.

1142 Defendant's counsel offer, introduce and ask to be filed in evidence the four books last presented to the witness, and they are now designated as "Orrell Engine Memoranda Nos. 1, 2, 3, and 4," respectively.

Q. I understood you to say yesterday, that your time record of the dials at the pumping station began at six o'clock at night, and ended at six o'clock the next night; and, therefore, covered really two days; is it——
A. Yes sir, they begin at six o'clock in the morning.
Q. Six in the morning until six at night?
A. Yes sir.
Q. Therefore to get a record of the water pumped in a day commencing at twelve o'clock midnight and ending at 12 o'clock midnight you have got to deal with two of your memorandum records, have you not?
A. Yes sir.
Q. Day before yesterday you were asked about the Schwartz fire; are you able with reference to anything you have got, to state anything as to the date of that fire, and the operation of the plant during the period of that fire?
A. Yes sir; I have the log book.
Q. Is the log book here in court?
A. Yes sir (witness produces it).
Q. How many log books have you here?
A. Two.
Q. What do they record?
A. Well, they record mostly the conditions throughout the day; not including the pumping—revolutions and the pumping.
Q. What date do you find that fire to have occurred?
A. On Wednesday, February 17th, 1892.
Q. Do your records show at what time the alarm came in?
1143 A. Yes sir. Reads to the effect "Large fire this night at 10.30, corner Canal and Bourbon."
Q. Can you, by referring to the memorandum of the day in evidence here, show what amount of water was pumped during the 12 hours that would follow—immediately follow, after the fire?
A. Yes sir.
Q. What is it?
A. I have not got the record in this book to that effect, but it is in the engine records; I have the data here two days previous to the fire, which is a very fair comparison.
Q. Well, what was the water pumped those days?

A. That was on February 15th, during the twelve hours of the night, 3,462,000 gallons.

Q. Well, what was the amount of water pumped in the same portion of the day on the 17th, the day of the fire?

A. On February 17th, 1892, 12 hours of the night 5,011,146 gallons.

Q. During that fire did you have any trouble in keeping up the pressure?

A. I don't think I did; I have no note to that effect.

Q. What engines did you have in at that time?

A. What is called the half of the new beam engine at the time.

Q. What was its capacity?

A. 12,000,000 galoons. I also had the Knowles pump put in later.

Q. What is the capacity of them?

A. Six million gallons in twenty-four hours.

Q. You were asked when last on the stand to make a computation on the stand, from your record, of the water used at what was known as the cork fire on Tchoupitoulas street——

A. Yes sir.

Q. Have you verified that since you were on the stand, to see whether your computation on the stand was correct, or not?

A. Yes sir; I made the computation on the stand; I find it to be somewhat incorrect and I have corrected it and got the
1144 memorandum of it; the correct conditions for that fire were, on December 7th the fire occurred at 7.20 p. m. and at 12.55 a. m. December 8th——

Q. Were you correct as to your figures?

A. No sir, not in the amount of gallons given yesterday on the stand; the correct figures are, for December 7th, 12 hours during the night 7,100,976 gallons.

Q. It is somewhat difficult to make those computations on the stand, isn't it, from your data?

A. Yes sir, it is rather an inconvenient place to calculate on it.

Q. Have you extracted from your records the condition of matters at the pumping station on any of the fires that have been referred to in this case, at any time.

A. Yes sir, I have.

Q. Will you look at the paper I now hand you marked "Orrell Exhibit in Relation to Fires" and state if you made that tabulation and if you made it from records of the pumping station as they have been produced here in court.

A. Yes sir.

Q. Is that a correct statement of data given there in relation to each one of the day and dates and fires named in the tabulation?

A. Yes, it is correct.

Q. As taken from the data you have produced today?

A. Yes sir.

Counsel for defendant, offer introduce and ask to be filed in evidence, the paper designated as "Orrell Exhibit in Relation to Fires," in connection with witnesses' testimony.

Q. During the period of time that you have been connected with, or the period you have had charge of the pumping station of the water works company, can you state the daily pressure—night and day, that you have been directed to carry?

1145 A. At present directed to carry 87 feet during the day; carry about 85 during the night.

Q. Well, how do you get figures then by years and dates, through the changes of pressure you have carried.

A. Well I couldn't say exactly—try to partly guess at some of it; they come very near it—previous to 1894 carried 65-foot head day and night, for about two years.

Q. About what year.

A. 1892 to 1894.

Q. Well, back of that, state generally.

A. From 1890 to 1892 carried 65 to 70 feet head during 12 hours of the day.

Q. What was the pressure at night.

A. About 60-foot.

Q. Well—what pressure prior to that time?

A. Prior to 1890 used to use the basin pressure on the night-time—about 65-foot head during the day.

Q. When the basin pressure was on, what was the gauge reading at the engine; do you remember?

A. Yes—the gauge reading at the pumping station, was from about 28 to 30 feet.

Q. And when was the basin gravity pressure abandoned for direct pumping into the mains; about what time, do you remember?

A. About December, 1889.

Q. Do you remember, during that period, including the time covered by your answer to the last question, of that pressure being lost for any considerable time?

A. No sir.

Q. Is such an event had happened, you would have recorded it in the log.

A. Yes sir, if it has happened it is most likely recorded in the log.

1146 Q. Will you state to us how the pressure in the stand-pipe—to get the pressure you have spoken *off* in the distribution—has to be regulated and kept static, or as near static as possible by the engine—you have a gauge on all the engines?

A. Yes sir.

Q. Is it, or is it not necessary for the engineer operating the engine to watch the gauge for pressure with vigilance all the time?

A. Yes sir, continually watches the gauge.

Q. Do you know about how high your stand-pipe is; about what height you would get relief over the top of it?

A. No sir; I don't know exactly; I have heard it is 174 feet.

Q. What in your opinion would be the calamity that would follow the carrying of your pressure, say up to 150-foot water column in that pipe?

A. Most likely burst some of the pipes.

Q. What effect, if any, do you think that would have on the old service pipes that conveyed water from the mains into the houses of consumers?

A. Probably burst some of them.

Q. Take the Allis engine, triple-expansion engines—where are they located on the first or second floor of the water-works pumping station building; I refer to steam part of the pump.

A. They are located on the second floor.

Q. Where are the gauges by which you regulate the pressure?

A. They are located on a bar about six feet above the second floor.

Q. How far are they from the level of the delivery pipe for the city?

A. Some 18 feet.

Q. Now, how are your gauges adjusted to count for the 17 feet of water column below the gauge?

A. The gauge—that is 17 or 18 feet above the ground
1147 level—the hand is taken off the gauge and placed in a position so that the face of the gauge reads the total pressure from the base of the column.

Q. About what would your gauge read then at zero?

A. It would read eight pounds at zero.

Q. At zero, at its location on the engine?

A. Yes sir.

Q. Then, to the reading of the gauge, eight pounds has to be added, to get the weight of the height of the column from the base?

A. Yes sir.

Q. Do you remember on December the 11th of the present year (1899) in which they made a test of the pressure of the water works with gauges placed at other points than the plant where your gauge was?

A. Yes sir.

Q. Did you make a process verbal, or statement of the pressure at the works on that day?

A. Yes sir.

Q. Was another taken at another date, the 13th I think it was?

A. Yes sir.

Q. Will you look at the paper I now hand you, marked Defendant's Offer No. 25, and statement if the statements in that, marked 25 A and 25 F are statements of the gauge pressure at the works at the time named in those statements. I refer to the ones signed?

A. Yes sir, those statements were made by me.

Q. What precautions, if any, were taken to make the time simultaneous between your test at the works and tests by the other parties at other points in the distribution?

A. The precaution that they were to be taken exactly at 12 m.
12.1 12.2 and 12.3; the other parties had set their watches with my watch to compare with the readings.

1148 Q. They came than to the works, before they sta-ted for their positions?

A. Yes sir.
Q. Who were they?
A. Mr. Robert McNamara, Jr.
Q. That was on the 13th. wasn't it?
A. Yes sir, Mr. Robert Forester and Mr. Nick Block.
Q. Were their watches set together at the time they left the works?
A. Yes sir.
Q. Did you see the gauges that they used and brought back to you?
A. Yes sir.
Q. What styles of gauges were they, registering in pounds?
A. They were steam-gauges, registering pounds, graded in five pounds.
Q. Did they return together to the works?
A. Yes sir.
1149 Q. Bring the same gages?
A. Yes sir.
Q. Did you then make a comparative test of the gages used for this purpose—to ascertain their relation in recording the pressure to the one on your engines?
A. Yes sir.
Q. Was it taken on the same day of the pressure test?
A. Yes sir.
Q. Have you a memorandum there on your statements of how the gages read comparatively?
A. Yes sir.
Q. Will you state it?
A. Number 4 gage, as described on page one, has been taken down from the engine and tested on one level with the other three gages used by Mr. McNamara. The result is as follows——
Q. Is that the first, or second, test?
A. That is the first test; Nos. 1, 2, and three gages compared with No. 4.
Q. No. 4 is the gage on your engine?
A. Yes sir.
Q. How did they read under the same pressure?
A. Number 1, 25, compared to 28; No. 2, 20, compared to 28; No. 3, 23, compared to 28. 28 pounds is the number 4 gage.
Q. To the record of No. 4 gage, should anything be added to bring that gauge back to zero, on the same pressure as the other gauges?
A. Yes sir: for a correct reading at that level—No. 4 gauge—there should be deducted eight pounds.
Q. So as to bring the needle back to zero at any pressure?
A. Yes sir.
Q. Have you noted that in the memorandum?
A. Yes sir.
Q. Do you know who had the No. 1, 2, and 3 gauges?
A. No sir: I do not.

Q. It was one of the three gauges brought to you before
1150 they started out—that were brought back?

A. Yes sir.

Q. Were they the same gauges they took out—were the gauges that they took out and brought back to you for testing, the same gauges?

A. Yes sir, the same gauges. That is the lowest reading for the comparison there. It was not the pressure at the time. There are three other readings here.

Q. Give us all the readings. You tested them on two days, did you not?

A. No; those three gauges were tested on one day.

Q. It was another gauge that was used on the next test? What was the comparative readings of the gauge used on the next test—on the second test with your engine record gauge?

A. The comparative reading was—the second gauge being marked as No. 5, I made a record here—thirty to thirty-eight. No. 5 gauge is marked as thirty; the gauge used at the pumping station was thirty-eight pounds.

Q. Which gauge read the highest—yours, or the one used on the test? And what was the difference between the gauges at 30 or 35 pounds? Which read the highest?

A. The gauge used at the pumping station read the highest in a comparative test.

It is admitted that if the other parties who signed the report were examined, they would testify to the accuracy of that report; and also that they are employees of the company.

Cross-examination.

By Mr. FORMAN:

Q. This is 28 pounds to the square inch, I suppose you mean?

1151 A. Yes sir.

Q. The gauges are the usual steam gauges, are they not?

A. No sir:—some of them were. The gauge I use at the pumping station is not a usual steam gauge; it is expressly for recording water pressure, graduated in both pounds and square feet.

Q. How does a dead end affect the quality of the pressure in its neighborhood?

A. I really couldn't say: I have had no experience, not having anything to do with that part of the matter outside.

Q. How does the volume of water on the pipe—that is as to whether it is a large or small pipe—affect the pressure?

A. I really couldn't say. I don't know the conditions it might be under.

Q. What do you say was the height of the stand-pipe?

A. 174 feet, about; I don't know the exact height.

Q. With the column of water in the stand-pipe 65 feet, what was the pressure per square inch in pounds?

A. About 26 to 28—about that; I don't know. It is a matter of calculation as to its precise pressure.

Q. What?

A. About 26 or 28 pounds. It is a matter of calculation as to its precise pressure; it is guessing.

Q. These gauge records, were they expressed in pounds per square inch, or in feet?

A. In pounds per square inch. 2.3 feet in a column of water is equivalent to about one pound pressure per square inch.

Q. And the automatic gauge that you speak of simply registers the pressure per square inch?

A. Yes sir.

1152 Q. You multiply that by 2.3 to get the number of feet in the stand-pipe?

A. Yes sir; and add three feet to it, as the gauge is three feet above the base of the column.

Q. In speaking of the capacity of your pumping apparatus, how is that affected as to whether or not the stage of the river is at high-water mark, or at low-water mark?

A. It is not materially affected.

Q. In other words, if you have to lift water twenty feet, you can pump as much water as if you did not have to lift it at all—is that the position?

A. Not in all cases: conditions vary; they differ. With the Allis machine I can pump twenty million gallons in twenty-four hours, irrespective of the difference in the lift. With the beam engines it is slightly affected, but not materially.

Q. I will ask, when we come to the question of lift, at what point in the distance of lift would you come to a difference between the number of gallons that you could pump?

A. Well, at about sixteen feet lift it would materially affect the machine, in so far as that it could not be drove so hard; but it would not affect its full capacity. That is to say, I could pump twenty million gallons of water with that lift of sixteen feet, whereas I could pump possible twenty-three with a three or four foot lift with the same engine.

Q. In other words, if the level of the water in the river was up at the top of a twenty-foot lift, so it would actually run into the city of its own accord, your pumping capacity would not be changed thereby?

1153 A. We could add three millions more to it above what we rated at, due to the condition of the beam engines only.

Q. Simply making a difference in that of three million gallons with reference to the beam engines?

A. Yes sir; that's all.

Q. Make any difference with reference to the Allis engine?

A. No sir; that three million—have not included it in the total capacity.

Q. Do you know what pressure the ordinary service pipes are capable of standing, per square inch?

A. No sir; I do not. That depends upon their diameter and thickness.

Q. You have never made any test of what the ordinary pressure pipes used by plumbers in the city of New Orleans will stand?

A. No sir.

Q. Then the hydrant water would scarcely run out of the faucet seven or eight feet from the ground, and you would scarcely think there was any danger of the pressure bursting the pipes, would you?

A. No sir; I don't think it would, unless some condition existed there—very weak.

Q. How is the capacity of the two faucets of the same size and on the same pipe, at different elevations, affected by the amount of pressure on the pipes?

A. Well, really I couldn't say; conditions are very different.

Q. Sir?

A. I couldn't say. It depends on the conditions; sometimes they are very different.

By Mr. McLOUGHLIN:

1154 Q. How long have you been with the water works Co.?

A. Twenty years.

Q. Have you ever worked for any other water works company?

A. No sir.

Q. Have you ever examined any other water plant?

A. No sir.

Q. You only know the plant of the New Orleans Water Works Co.?

A. Yes sir.

Q. What changes, if any, have been made in the pumping machinery since you have been there?

A. Taking out one old pumping engine, and putting in two new machines.

Q. How much did that increase the pumping capacity of the works?

A. In that one particular respect it increased it some seven or eight million gallons per twenty-four hours.

Q. Well, were there no other changes made that increased the pumping capacity?

A. The beam engine has been remodeled and repaired.

Q. What is the increased capacity now of the plant, from what it was when you went in?

A. Six to eight millions.

Q. Six to eight millions a day of twenty-four hours more now than when you went there originally?

A. Yes sir.

Q. What is your maximum pumping capacity in one day?

A. If the whole plant was put in?

Q. Yes.

A. I would say forty-six million.

Q. What is your average pumping capacity—by that, I mean

the engines you usually run every day; what would be their capacity?

A. I could pump thirty million.

1155 Q. Without straining?

A. Yes sir:—keep that up.

Q. What days, during the time you have been engineer there, have they pumped thirty million a day?

A. At no time.

Q. Do you know that they have ever pumped twenty-five million a day?

A. No sir.

Q. You have never had occasion to run your engines to their full capacity since you have been engineer?

A. Yes sir.

Q. When?

A. For a while during the day; during this last drought.

Q. That was the year 1899?

A. Yes sir.

Q. I don't mean this year: I mean prior to 1899.

A. No sir: I don't think I have. But during the cotton-press fire, on April 3rd, we ran at a very high rate during that time.

Q. What year was that?

A. 1892.

Q. But you didn't run it at your full capacity then?

A. I don't remember exactly. It ran at a very high rate for a short while.

Q. That was for a very few hours—that was only for a few hours?

A. Yes sir:—perhaps not that long.

Q. Have you ever had occasion, during the drought, or at any other time—or at any time prior to 1899—to run your engines at the rate of thirty million *per diem* of twenty-four hours?

A. No sir.

Q. Have you, during all that time, been prepared to supply that much water if necessary?

A. Yes sir.

By Mr. BECKWITH:

Q. The question of the capacity of the pump to pump water with a difference in the height of the suction-pull, is its capacity

1156 to utilize steam, is it not?

A. Yes sir.

Q. So that when you say you can take the Allis pumps up to their standard of twenty million, you mean you have steam enough and that engine will utilize the steam and give the additional power necessary to overcome the difference in suction?

A. Yes sir.

Q. Do you remember in 1897, an epidemic year when, at the instigation of the doctors or somebody else, they flung open all the plugs they could open and drew on the plugs very hard——

A. Yes sir.

Q. You remember my coming up to the plant at the time?

A. Yes, I do.

Q. Well, for a short time then, until they could get the plugs closed and the pressure restored, were you not throwing water at the rate of over thirty million gallons *per diem*, until the pressure was restored and everything in?

A. Yes:—for a short while.

Q. The whole plant was in, and driven as hard as it could be driven,—Knowles pump and all?

A. Well, the Knowles pump was in as an auxiliary, because I did not know what was going to come—the two Allis engines and part of the beam engines.

Q. Do you remember when I reached there what a struggle was going on to keep the pressure up?

A. Yes sir.

Q. Well, at that time, the engines were driven to their full speed were they not?

A. Yes sir, they were.

Q. The beam engine and the Knowles pump?

A. Yes sir.

Q. Well, during that time they were operated, you must
1157 have been running at the rate of nearly forty million, were you not?

A. I don't know as it reached that rate, Mr. Beckwith; it ran pretty high up. I don't think it reached that rate.

Q. I don't mean for the twenty-four hours, but I mean for the time that it was necessary to restore that pressure?

A. Yes, yes; I have no doubt there is records to that effect that would give the matter more precisely.

Q. Well, at the time I reached the works, you were driving everything as hard as you dared drive it, were you not?

A. No sir.

Q. Now, in estimating the h-ight of a column of water, from the record of its pressure on the gauge, what multiple do you use to reduce pounds to feet?

A. Multiply the pounds per square inch by 2.3, reduces it to feet.

By Mr. McLOUGHLIN:

Q. Mr. Beckwith asked you a question about the time he came up to the plant——

A. Yes sir.

Q. When you were before the legislative committee, my recollection is that you answered Mr. Beckwith the same time that it came to twenty-two million that day, and that you would furnish the figures. What he is speaking about is just for a few minutes?

A. Yes sir.

By Mr. FORMAN:

Q. You didn't break any pieces at that time, did you?

A. No sir: not that I know of.

1158 Mr. E. B. HANDS, recalled, sworn on behalf of defendant, deposes and says:

Direct examination.

By Mr. BECKWITH:

Q. Since you were on the stand last, have you made any additional search for evidences of meters being either possessed or used by the company?

A. Yes sir: I made a thorough search.

Q. Have you the books here in court that you referred to?

A. Yes sir.

Q. Will you please get them? (Witness does so.)

Q. The books you have there by you, are they the books of The New Orleans Water Works Company the defendant here?

A. Yes sir.

Q. Will you examine these books and state what evidence you find of meters existing or in use in the years they cover?

A. Do you want me to examine them now?

Q. Yes. Where do you find the first indications of any meters there?

A. These books don't show any meters at all. No record of any meters being used by the company.

Q. Up to what date?

A. Up to 1888.

Q. Do they show anything concerning meters?

A. No sir: not at all, except the transfer of the meters.

Q. Well is there anything in that record relative to there having had any meters transfer-ed from the city of New Orleans?

A. Oh, yes, yes.

Q. Will you give us that?

A. This is the list of meters.

Q. Get on the stand, there, and say what you found—read it off so that the stenographer will take it down, giving the page

1159 and book.

A. Folio 12, Journal No. 1, under date of April 10th 1878, among the list of materials transferred from the city to the water works company, I find one four-inch water meter; five three-inch water meters; four two inches; eight one and one-half, and seven one-inch, and sixteen fi/ve-eighths. That was all the meters transferred from the city to the water works.

Q. Do you find anything in the books showing any disposition of meters?

A. No sir.

Q. Is not there in the books an entry showing the sale of meters?

A. Yes sir.

Q. Where do you find it?

A. On page 44.

Q. What is it?

A. Cash Book No. 3; there is an entry here.

Q. Will you read the entry?

A. Of a sale in the year 1881—April 6th.

Q. Just read the entry.

A. Pumping service received for a lot of old meters and materials from the yard of the works of this company, and sold to D. C. Gregory, of Chicago, $1191.08.

Q. That is connected with an item to the credit of that amount of money—what is the amount credited to cash?

A. $1191.08; that was for a whole lot of material; it included meters.

Q. What other material was sold?

A. It does not state. Just simply a lot of old materials and meters from the yards of the works of this company.

Cross-examination.

1160 By Mr. FORMAN:

Q. Mr. Hands, when did the water works Co. commence to compel the consumers to pay for their own meters, and buy them outside?

A. Well, I have no record previous to the time I went with the company, in 1892.

Q. Have you ever found any record when they did, in your examination of the books?

A. To what effect?

Q. Have you ever found any record when they did, in your examination of the books?

A. There is no record to that effect at all—referring to that.

Q. When you came into the service of the company in 1892 you found that was the practice in vogue, did you not?

A. Yes sir; except a few instances.

Q. Sir?

A. Except a few instances, while, for instance, the Maginnis mills—we paid for their six-inch meter.

Q. Now, all that time, you kept the meter account in a separate book, did you not?

A. Yes sir.

Q. Therefore, one might produce all the other hydrant ledgers and declare that he could not find anything in those hydrant ledgers pertaining to meters at all, could he not?

A. Previous to the year stated, 1888, there is no record in the ledger—or journal either—of any meter bills being collected.

Q. In other words, you have never been able to find any?

A. There is none. I have looked over all the books, and there is no meter record kept previous to 1888.

Q. You are therefore ready, since you have not found any, to affirm that there were not any?

1161 A. I am willing to swear that there is no record of any kind in the books of the company.

Q. And therefore no meters were in use?

A. Yes sir: no meters in use.

Q. Notwithstanding the fact that reputable gentlemen here have testified they knew that there were?

A. No sir: they had them in the junk yard, but they were not used.

Q. You are sure that none were ever used?

A. Yes sir:—previous to that date.

Q. Although you came in 1892, you are prepared to swear what was in use before you got there?

A. Yes: on the knowledge of all these matters, and the run on the pressure the water works carried at that time.

Q. What?

A. The meters, and the run on that pressure previous to the year 1888.

Q. You knew all about the pressure previous to 1888?

A. Notwithstanding the record of the books not showing any meter bills, from my knowledge of the meters I know that these meters were not registering on the pressure the city carried, and that is the reason these meters were thrown out; and that is how we came to have those meters in the junk yard.

Q. What pressure were they carrying previous to 1888?

A. Well, as far as I have looked into the matter they have not carried over fifteen pounds.

Q. To the square inch?

A. Yes sir.

Q. What pressure is required to run the meters?

A. Well, the pressure required to run would be twenty-five pounds. Under that, any sediment would clog the meter up in a very short while.

1162 Q. Which meters will run with the least pressure?

A. You mean which make?

Q. What?

A. What make of meters?

Q. Yes.

A. I consider the Empire, which is now made.

Q. What is the meter furnished generally by the Railway Mill & Supply Company to the customers here?

A. From what date?

Q. Since you have been with the company.

A. The Hursey, the Crown, and the Empire.

Q. The Worthington meter is not in use?

A. No sir.

Q. Nor the Thomson?

A. No sir: I have made a test of them both on the river water.

Q. The Gem meter is not in use?

A. I made a test of that. I threw all the meters out.

Q. Did you ever try the Nash meter?

A. Yes sir:—threw that out.

Q. What is the difficulty?

A. The Nash meter and the Thomson meter, these are disk, meters.

Q. What is the difference?

A. The Worthington is a double-action pump; it works two pistons in a cylinder; they revolve or work in the same way as a regular double-action pump. They wear very fast with that sediment in the water, and are liable to get on a dead center without a steady flow of water.

Q. The larger the quantity of water you send it, I suppose then, the faster that meter would wear?

A. As compared to the size of the meter.

Q. Did you ever test the meter of the American Brewing Co.?

1163 A. No sir. I have tested it since it has been in repair though.

Q. What?

A. I have tested it since it has been taken out; after it had been removed.

Q. While it was in use, you never tested it at all?

A. No sir: it was removed since after I went with the company.

Q. You never tested it before it was removed at all?

A. No sir; not that I remember.

Q. When you did test it, how many gallons per cubic foot did it run?

A. I don't remember that test exactly; but I found it over twenty-five per cent. worn. It was sent for us to send it back to the factory for repairs.

Q. Can you explain why the American Brewing Company was not charged more than seven and a half gallons per cubic foot when it was one of the largest consumers of water?

A. You say why they were charged more than seven and a half?

Q. Why they were never charged more than seven and a half per cubic foot, when they were one of the largest consumers of water, and, according to your statement, the meter registered more than twenty-five per cent. cubic feet of water than the dial called for?

A. That meter was removed a short while after I went with the company.

Q. You tested it, you say?

A. Yes sir.

Q. And you found that it registered twenty-five per cent. more water than the dial called for?

A. Yes sir; that was back water; I couldn't charge them for an error that we made.

Q. What more water passed through it than the dial called for?

1164 A. From the test it showed that——

Q. Twenty-five per cent. more?

A. Yes sir.

Q. Did you keep a record, at any time, that you tested the meters of anybody?

A. Yes: kept all.

Q. Sir?

A. I kept them all.
Q. Where is that record?
A. In the meter book.
Q. In which meter book?
A. The meter book that we keep all the records in.
Q. You mean in the meter ledger?
A. No sir: the meter book.
Q. Where is that?
A. At the water works company's office.
Q. I will be glad if you will produce that, and give us the dates. I don't suppose you can do it from memory?
A. No sir.
Q. Can you remember when you tested the meter of L. C. Arney?
A. I have tested that four times, I think.
Q. Can you give us the dates?
A. No sir.
Q. Can you tell us who was present?
A. Well, I had an assistant with me.
Q. I mean anybody representing Mr. Arny?
A. No sir: it was reported to Mr. Arny, though.
Q. Sir?
A. The test was reported to Mr. Arny, and he requested it. I know Mr. Arny personally.
Q. Reported to Mr. Arny in person?
A. Yes sir.
Q. Was he present?
A. Not at the test; no.
Q. How came you to take the meter out of the American Brewing Co.?
A. I had nothing to do with that at all.
Q. What kind of meter did the American Brewing Company have?
A. A four-inch Hursey.
1165 Q. When did you test the meter of James Buckley & Co.?
A. They had two meters there.
Q. Sir?
A. They had two meters there—which one do you refer to?
Q. I am sure I don't know. Is there anything on the meter receipts to show what two meters they did have?
A. First put in a one-inch meter, and changed to a five-eighths.
Q. Which one did they have in 1898–1899?
A. Five-eighths.
Q. When did you test that?
A. I can't remember the exact date.
Q. When was it put in?
A. I can't remember that, either.
Q. What did they have in 1897?
A. I don't remember the exact date that was changed.

By Mr. McLOUGHLIN:

Q. You quoted the entry of when the city turned over the meters to the works:—do you know whether those were new meters, or old meters?

A. I couldn't tell.

Q. Haven't you quoted the entry when the meters were sold?

A. Yes sir.

Q. That says old meters, does it not?

A. Yes sir.

Q. Do you know whether those were the meters turned over by the city, or old meters taken as trash from the consumers?

A. I can't tell.

Q. Then, you don't know whether the meters turned over by the city were the same meters sold as old meters some time afterwards?

A. No sir: I couldn't tell you positively.

Q. Do you know whether the city rented out meters to
1166 consumers or not?

A. Well, not since I——

Q. When the city had charge of the works?

A. No sir; I have no record at all.

Q. Did you look for any such record?

A. Yes sir.

Q. You did?

A. I looked for that record pertaining to meters.

Q. Did you find a record in your office called the "Hatch tariff"?

A. Yes sir.

Q. Did you find on there a charge for meters?

A. Yes sir.

Q. Do you know anything about that time?

A. I was only with the company in 1892.

Q. You don't know anything that happened before that?

A. Only by the books.

Q. Which speak for themselves?

A. Yes sir.

By Mr. BECKWITH:

—. You had nothing to do with keeping the record of the pressures that existed on the mains? That was in charge of some one else in the works, was it not?

A. Yes sir.

Q. The Worthington meter is a meter that is called a piston meter, is it not?

A. Double-action meter.

Q. The pressure of the water lifts the piston backwards and forwards, and their reciprocal motion is registered on the device?

A. Yes sir.

Q. You say they were liable to stop on the centers?

A. Yes sir.

By Mr. FORMAN:

Q. In what time of the year 1892 did you enter into the service of the water works company?

A. The latter part of November.

Q. Now from the 30th of November, according to the re-
1167 ceipts produced here, up to the 30th of November, 1893, they had a meter?

A. A good many of them—do you mean the water works company?

Q. The American Brewing Company.

A. Yes sir.

Q. Had a meter?

A. Yes sir.

Q. During all that time you didn't test their meter?

A. I don't think I did.

Q. A whole year?

A. Yes sir.

Q. How came it you were testing other people's meters and let them go, although they were one of the very largest consumers of water?

A. When I was with the company in 1892, I was new in the business; I went there to learn the meter business, and I think it took me at least a year and a half to make myself competent to test the four-inch meter, which is a very large meter, and very hard to test; and it was necessary to take the meter out in order to test that four meter.

Q. They had no one to test meters then?

A. No sir; not previous to the time I went with the company.

Q. Why is a large meter harder to test than a new one?

A. Because the consumption is more. A large consumer having no tanks in the building sufficient to record on the dial, which is one hundred cubic feet dial, it takes a large quantity of water to register correctly on that dial; and that is the reason it was necessary to take the meter out of the premises and have it corrected at the station, where we have facilities to test meters—a couple of years after I was with the company.

Q. There was no suggestion from any source that the American Brewing Company's meter was not all right, was there?

A. Not on the face of it, no sir.

1168 Q. You couldn't tell before you tested it?

A. No sir.

Q. Now, sir, you have your meter record in court with you?

A. Yes sir.

Q. Will you turn to that and tell us upon what date you tested the meter of L. C. Arny?

A. Mr. Arny, I find, has two meters. The first was placed in on February 1st 1896.

Q. You mean two meters at the same time?

A. No sir; I mean two meters on his premises, at different times.

The first was removed and replaced—bought another meter of a different make.

Q. What was the make of the first one?

A. The first one was a Nash meter, and that was replaced by a one-half-inch Crown meter. That Crown was tested four times.

Q. Was the Nash meter ever tested?

A. Yes sir.

Q. When?

A. It was tested and found stopped—refused to register—June 15th, 1896.

Q. How much water was it running, in excess of what it registered?

A. The meter could not be tested on account of not running.

Q. Why wouldn't it run?

A. Because the Nash meter is the meter I have had thrown out of use; and that meter was condemned and a new one replaced.

By Mr. BECKWITH:

Q. A piston meter, was it?

A. No sir; a disc meter.

By Mr. FORMAN:

Q. What was the matter—what was the reason it wouldn't run?

1169 A. It was entirely worn out from the sediment in the water.

Q. Water would run through it, wouldn't it?

A. Yes sir; water would run through a meter after it is worn out without registering.

Q. What I am trying to get from you is: how many gallons ran through it in excess of what it registered?

A. You mean the first or second meter?

Q. The first one—the Nash meter.

A. The loss was entire—didn't register anything.

Q. Didn't register at all?

A. That is the reason it was removed.

Q. Then you put in a Crown meter?

A. Half-inch meter.

Q. When was that put in?

A. That was put in on September 28th.

Q. What year?

A. 1896.

Q. And when did you test it?

A. It was tested before the meter went in place, and found to be correct.

Q. It was all right then?

A. Yes sir.

Q. When did you test it again?

A. The meter was tested again April 28th.

Q. Of what year?

A. 1898.
Q. Who was present at that test?
A. As I mentioned before, my assistant at the water works company. He and I were the only two present.
Q. Only two persons present?
A. Yes sir.
Q. Neither Mr. Arny nor any one representing him were present?
A. No sir.
1170 Q. What did you find the amount of water passing through to be, in excess of what was registered?
A. On the first test we made, we found it to be nine gallons—April 28th was the first test made,—was eight gallons to the foot—averaged eight gallons to the foot.
Q. That was the 28th of April 1898?
A. Yes sir.
Q. When was the next test made?
A. That was made the following month.
Q. On what date?
A. May 27th.
Q. Who was present then?
A. The same two people.
Q. No one representing Mr. Arny?
A. No sir.
Q. What did you find than?
A. Found it to be nine gallons that day.
Q. Found it to be worn so much that a gallon more per cubic foot ran through it in a month, is that it?
A. The test was added eight gallons, and I went back there and made a thorough test—tested it three times, and we found it nine gallons to the foot, which was agreed by Mr. Arny to be paid—nine gallons rather than have the meter repaired, or a new one placed.
Q. Now, your first test, then, showed eight gallons, and the month after you tested it and found it was nine; and then when was the third test made?
A. October 28th, 1899.
Q. It was still nine?
A. No sir; ten, then?
Q. October 28th, 1899?
A. Yes sir; I have omitted two tests. Here is October 28th, I found it nine gallons again; and April 28th was nine gallons.
Q. What year?
1171 A. The first test was April 28th, 1898; the next test was April 27th, 1899,—nine gallons again; and October 28th 1899, ten gallons.
Q. When was the meter put in at James Buckley's?
A. I will have to examine my record (witness does so). It was put in October 13th.
Q. What year?
A. 1893.
Q. When was that tested?

A. I suppose you have reference to the second meter? The second meter was tested on——

Q. I don't know whether you have one or two: I am just trying to get at the basis upon which you arranged this calculation which required all the way from three and a half gallons a cubic foot up to twenty-six gallons a cubic foot.

A. The second test was made June 26th, 1896.

Q. Then June 26th 1896, you had no suspension of Mr. Buckley's meter for three years?

A. Yes sir:—the first meter went in was removed on account of not registering the supply that they had.

Q. When was that removed?

A. Removed on May 31st 1894.

Q. Then you put in a new Crown meter?

A. No sir: a new Hursey—five-eighths Hursey.

By Mr. FORMAN:

Q. Now, you put in that new Hursy meter in 1894: when did you test it afterwards?

A. The first test was made June 26th 1896.

Q. Well, how much did it register then?

1172 A. When tested it came to twelve and a half gallons.

Q. But you had not tested it in the meantime?

A. Not previous to that date, no sir; except it was tested when it went in.

Q. How did you arrive at the bill of August 26th 1895, at three gallons and 64 and a fraction per cubic foot?

A. Whose bill was that?

Q. On the test of December 28th 1895.

A. That bill was No. 410, $2.90—that was for the months of October, November and December—three months.

Q. But the number of gallons reported was 5550?

A. No sir: 11550, at twenty-five cents.

Q. Is that your signature—Edgar B. Hands?

A. Yes sir.

Q. December 31st 1895: is not that 5550 gallons?

A. At twenty-five cents; you will see how much.

Q. I am talking about the number of gallons.

A. Well, on the face of it you see the gallons is wrong.

Q. You have got here 5550 on this receipt, have you not?

A. Not carrying out the gallons the month previous. I carried out six thousand gallons, for the following month—for the two months I carried out 5550. I left out the 6000 gallons and put it 5550 at twenty-five cents; and the previous month was 6000 at twenty-five cents, makes $1.50. That would make the total bill $2.90. That 5550 is an error: it should be 11550, which is the amount of the bill—$2.95.

Q. The previous bill, on September 30th 1895, 8400 gallons——

A. Is that the year 1895?

Q. September 30th immediately preceding.

1173 A. Eighty-four hundred, at twenty-five cents,—$2.10.

Q. Here is your bill on December 31st 1895, 1540 cubic feet.

A. What date?

Q. Your bill on December 31st, 1895, is registered here fifteen hundred and forty cubic feet?

A. That is correct.

Q. That is 5550 gallons?

A. Well, fifty-five hundred and fifty is wrong, as I stated before. It should be 11550, at twenty-five cents.

Q. We are talking about the rate per thousand gallons.

A. The cubic feet is correct on that bill. That is merely carried out wrong; it is wrong on the face of it.

Q. When did you test Buckley's meter again?

A. I tested it July 31st 1897.

Q. What did you find it then?

A. It was fourteen on that day.

Q. What manner did you use in testing it?

A. We used in that place a gallon measure—one-gallon measure.

Q. How many gallons did you measure?

A. I said fourteen.

Q. Fourteen gallons?

A. Yes sir.

Q. I know, but how much water did you draw for the purpose of making the test?

A. I made three tests—each fourteen gallons apiece—forty-two gallons.

Q. When did you test it again?

A. The meter was repaired on account of the loss was so great. Fourteen is too much for a five-eighths meter; you can't pass a stream of water through a five-eighths meter of fourteen gal-

1174 lons, which is almost a hundred per cent. loss. It should be seven and a half. The meter was repaired the following month, and after repairing it it was found to be ten gallons. In repairing a meter you can bring the meter back to its original gallonage—seven and a half. You only take the wheel on the top and bottom surface, and not the side.

Q. If you put in a new wheel, it would be as good as new?

A. That would cost the consumer as much as a new meter would. The cost of the meter is the piston and cylinder; the casting itself is a very little expense.

Q. I am talking about the wheel that revolves—can't that be repaired?

A. No sir: it is the piston.

Q. When did you test the meter of Mr. Peter Braun?

A. The Peter Braun meter was first tested on July 31st 1897.

Q. How much does it register?

A. Ten gallons.

Q. And when again?

A. Tested December 31st, 1898.

Q. How much then?

A. Ten gallons.

By Mr. KRUTTSCHNITT:

Q. I would ask you to turn again to that bill of December 31st 1895—bill of James Buckley. I understand the number of cubic feet on that bill you claim to be correct?

A. Yes sir.

Q. For how many months was that?

A. Three months.

Q. What months?

A. October, November, and December, 1895.

Q. Gave a total number of cubic feet of how many?

A. 1540, by the books.

Q. Now, how did you compute that:—how many gallons
1175 to the cubic foot?

A. Seven and a half.

Q. That made how many, as a total?

A. 11550.

Q. How much did that make at twenty-five cents a thousand gallons?

A. $2.90.

Q. Will you state whether all these figures are given accurately on the bill rendered to Mr. Buckley on that date, and if not, what is incorrect?

A. The gallonage is correct.

Q. Is that all?

A. Yes sir.

Q. The number of dollars paid by him is correct?

A. Yes sir.

Q. Now I would ask you to look at another bill, which I suppose to be the one referred to by counsel in speaking of some of these bills being collected at twenty-six gallons to the cubic foot. Look at the bill which I now offer you, being the one marked 878, and purporting to have been rendered to James Buckley & Co., for the consumption in some part of the year 1894, and tell us whether or not some part of the figures thereon are correct, or require explanation.

A. I think they require explanation. He was charged with 16125 gallons for five months. That was an estimate on the new meter placed, the old one, as I stated before, being worn out, didn't record the water he used. A reading was taken from June 12, the day of the meter being placed, until June 31st, and a registry there of four hundred and thirty feet was recorded. From that a bill was rendered for the past five months, for $6.75.

Q. Does the bill on its face show the reading from June 30th?

A. Yes sir.

Q. Shows that reading?

A. Yes sir.

1176 Q. Does it show for what period it was rendered?

A. Yes sir: from January 31, 1894 to June 30th, 1894.

Q. Then, the number of cubic feet for which that bill was rendered was not 430, but at that rate for five months?

A. At that rate for five months.

Counsel for plaintiff offer, introduce, and ask to be filed in evidence the meter books produced by the witness.

It is understood that the meter books may be withdrawn at any time, provided they are produced in court here on the day of argument, and will be taken to the supreme court in the original and produced there in the original, on the date of argument.

1177 M. LARKIN, being sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What relation or employment have you in the defendant corporation?

A. Chief spannerman, sir.

Q. How long have you been connected with the company?

A. All of twenty years, off and on.

Q. What are your duties?

A. Well, I have a district to run, open and close hydrants, enter all complaints brought in by the spannermen; make notices and go over the force-pumps where there is complaint that they don't give any water through the service pipe.

Q. Is there any particular district of the city, under your special supervision?

A. Yes sir.

Q. What district is that?

A. From Poydras to Canal and Delta to White.

Q. Will you look at the compilation of reports that I hand you, marked "Defendant's Offer No. 20" and state if those are reports as to the condition of fire-wells and fire-hydrants that were returned to the company by the various spannermen, whose duty it is to look after those things——

A. This is mine, dated February 14th, 1896, signed by me and signed by Edw. J. Klotz, fireman.

Q. On what occasion are those reports made?

A. Every month; each spannerman takes a fireman through the district, examines all the fire-wells, fire-plugs, oils the screws and the fireman examines the screws and the nozzles; and if he finds any not in condition he reports them; the spannerman will report to me and I enter it on the complaint book; and they are attended to by Mr. McNamara.

Q. I ask, whether these reports filed and signed by you are reports that you made after an examination of those plugs and
1178 wells in the district named in the certificate, and the inspection made in connection with the fireman; and if these are reports made at the time; and I ask you to look through all and state whether your signature to the report is correct; and whether you know the signature of the fireman who signed with you?

A. I find them all correct, sir.

Q. Wherever you have signed one of these reports and the fire-

man's signature is attached, was there a fireman and is that his signature, and was it attached in your presence?

A. Yes sir.

Q. And made at the dates designated in the various papers?

—. ——.

A. Can you tell us whether in your duties you are required to keep watch of fire-plugs and wells, as far as your district is concerned and illicitly opened hydrants?

A. Yes, sir.

Q. To what extent *is your* has your district suffered from the unlawful opening of plugs.

A. A great deal, during the drouth.

Q. About how many a day would you make the average you found open.

A. In my district alone?

Q. Yes.

A. Some days fifteen or sixteen; other days ten.

Q. How would they be opened—full open?

A. No, running slow in the gutter sometimes the boys would open them.

Q. To what extent were the plugs used in that district by the city authorities, in washing the streets.

A. The city men use them.

Q. I asked you about the city men, are they used a great deal?

A. Oh yes, they use a hose length.

Q. Use them at full capacity?

1179 A. Full capacity.

Q. About how many hydrants do you think are used a day in your district, at a time, wide open.

A. Full open, they use two at a time, with a line of hose sometimes with a gooseneck on them.

Q. How many would be opened in the course of a day in your district.

A. Say St. Charles street would be flushed from Canal to Poydras, that is the end of my district, they would have four open there.

Q. And how long would they keep them open?

A. Until they wash the block, wash the gutter.

Q. Would that be an hour, or two hours?

A. Say half an hour, or an hour.

Q. They use it clear across the street, don't they?

A. Yes, with a hose.

Q. Are any of those reports that you verified in looking through this Exhibit No. — reports of men who are now dead, or not employed by the company.

A. Yes sir. One man, Mr. Wallace.

Q. Do you know his signature?

A. Yes sir.

Q. Is that his signature?

A. Yes sir.

Q. Are others there that you discover are not now in the employ of the company?

A. Yes sir; George Thomas.
Q. Do you know his signature?
A. Yes sir.
Q. Was his signature attached to this report that purports to be made by him?
A. Yes sir.
Q. Anybody else?
1180 A. That is all.

E. J. RYAN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your connection with the water works company and how long has it existed?
A. I have been fourteen years a spannerman.
Q. What district.
A. From Poydras to Clio and from Delta to Galvez.
Q. Did you—do you make a monthly inspection in connection with a fireman of the condition of fire plugs and wells?
A. Yes sir.
Q. Will you examine this compilation and report, marked Defendant Offer No. 20, and state whether you have gone through it and examined, and, if not, look through it and state whether the exhibits that purport to be signed by you, show your signature and where the fireman has signed if you saw that signature made by the fireman?
A. Yes sir, they are all right.
Q. Wherever there is the signature of a fireman on a report with you, is the signature correct?
A. Yes sir.
Q. Is it part of your duty to ascertain illicitly opened plugs and to watch the use of hydrants in your district?
A. Yes sir; in the interest of the company.
Q. *Do* what extent do you find illicit opening of plugs in your district?
A. Sometimes 15 or 20——
Q. A day?
A. Yes sir.
Q. Has that been the average with you?
A. Yes sir.
Q. To what extent are the hydrants in that district used by the city forces in washing the streets and how are they used?
1181 A. Sometimes they would have goosenecks on the plugs, sometimes with hose.
Q. And how much of the day are they drawing water in that district through those plugs?
A. About half the day sometimes.
Q. Is that water used to flush the gutters alone; or to wash the streets?
A. Washing the gutters and washing streets also.

Q. When they use these hydrants, are they wide open—is it a wide-open use of it?

A. What?

Q. I say they opened the hydrant wide open?

A. Yes sir, full bore.

Q. What sort of plugs have you got in your district?

A. Some Holly and some wooden case.

Q. How many men does it occupy in a gang, washing streets in that way?

A. Sometimes we have five of them.

Q. And go through the district in a day—do they go through the district generally in a day, or wash part of it.

A. Was part of it one day generally, and part the next.

Cross-examination by Mr. FORMAN:

Q. How many hydrants are in your district?

A. I have, I guess, two hundred and some odd.

DAN. TWIGGS, sworn for defendant, deposes and says:

It is admitted that so far as the signature and verification of spannermen's reports filed in the Offer No. 20, that Dan. Twiggs will establish the verity of the report and testify to the same in that respect that the witnesses Ryan and Larkin have done.

1182 Direct examination by Judge BECKWITH:

Q. Do you remember at any time having attempted to educate a fireman as to capacity of an eight-inch pipe to supply the engine and of telling him that an eight-inch service main would only supply one engine?

A. No sir.

Q. Did you ever believe that?

A. No sir.

Q. Did you ever believe that the limit of capacity of an eight-inch main with any pressure at all, above 40 or 50, would be exhausting the entire supply used by one steam fire-engine of the class used here?

A. No sir.

No cross-examination.

J. MCDERMOTT, sworn for defendant deposes and says:

It is admitted that Mr. McDermott, will testify to the same facts, in regard to Exhibit 20, wherever his signature appears.

Direct examination by Judge BECKWITH:

Q. Have you examined that compilation of reports, particularly the reports there, that purport to be signed by you?

It is admitted that wherever his signature appears it is correct,

and that those also signed by the fireman are correct and that he will testify to the same as the other witnesses on the same subject.

Q. Which is your district?

A. From Dumaine to Desire and from the river to Bayou St. John.

Q. Was it part of your duties to keep track of and watch the illegal opening of hydrants?

A. Yes sir.

Q. To what extent does it occur in your district, so far as you know?

1183 A. Well 15 or 20 plugs running at times; street men working.

Q. I have not referred to those that are being used or opened up by the street people.

A. About fifteen or twenty a day, sometimes thirty unauthorized plugs.

Q. Is that about the general average?

A. Yes sir.

Q. Now, to what extent are the plugs used in your district by the street authorities for washing the streets?

A. Well, there is about six or seven gangs scattered through from Dumaine down; and each one of them have two plugs open at a time.

Q. Full open.

A. Full open, full power, as much as they can get.

Q. About how much of the day are they occupied with them?

A. In the morning from about seven to twelve; then in the afternoon sometimes also.

Q. Is the gang working about from one locality to the other?

A. Yes sir, one street after the other.

Q. One part of the city in the morning and another part of the city in the evening?

A. Yes sir.

Q. When you find these unauthorized opening of the plugs, how do — find them, wide open or partially open?

A. Sometimes wide open and sometimes partly open.

Q. When they are not wide open about what is the general state of the opening $\frac{1}{2}$ or $\frac{1}{4}$ or $\frac{1}{16}$ or what.

A. Oh, about one half.

Q. Have you ever had an instance of closing them and having them opened again soon afterwards?

A. Yes sir; sometimes close the same plug three or four times the same day and go around the corner and come back again and it will be open.

1184 Cross-examination by Mr. FORMAN:

Q. How many hydrants in your district?

A. Four hundred and some odd.

Q. Ever had anybody arrested for stealing water?

A. No sir.

By Judge BECKWITH:

Q. Generally they are out of sight aren't they, when you come on a plug?
A. Yes sir.
Q. Conscious perhaps, that they had better not be there?
A. What is that?
Q. They are conscious that they better not be there when the spannerman comes around?
A. Well; we have been instructed not to have anybody arrested to try and give everybody water in a drouth that wanted it; we are no way stingy with our water.

JAMES BURKE, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. Are you a spannerman in the employ of the company?
A. I was, for about 13 months; I am collector now.
Q. For what thirteen months were you connected with the company in that capacity?
A. September 1898 to October 1899.
Q. What district did you have?
A. I had from Canal to Dumaine from the river to White.
Q. About how many hydrants are there?
A. 209 I think.
Q. You joined with the fireman in making the report to the company of the condition of hydrants and fire-wells?
A. Yes sir.
Q. Did the fireman join you in it?
A. All the time, yes sir.

It is admitted that the witness will testify to the correctness of his signature wherever it appears, and also to the signature
1185 of the fireman wherever the signature of the fireman appears.

Defendant's counsel offer, introduce and ask to be filed in evidence the documents marked Defendant's Offer No. 20, on which witnesses have been examined.

L. H. GARDINER, recalled for defendant, having been previously sworn, deposes and says:

Direct examination by Judge BECKWITH:

Q. You were at one time secretary and treasurer of the company, were you not?
A. I was.
Q. Do you remember finding in the books anything in relation to 250 shares of stock, charged in the petition here to have been issued by the company and sold?
A. I find such an entry.

Q. Is the book here in court?
A. Yes.
Q. Will you please get it for me?
Witness gets book.
A. Shall I read the entry?
Q. First give the book and page; how is that book designated?
A. The book that I have in my hand is a journal, marked Journal No. 1.
Q. One of the books of the company?
A. One of the books of the water works company.
Q. Will you please read any entry made there, with reference to that stock transaction?
A. Under date of 27th of September, 1878 this entry "Four/Two hundred and fifty shares of stock of $100 each. New Orleans Water Works Company received from the city of New Orleans in settlement as a compromise of the claim of this company against the city of New Orleans for water rates collected in advance by the city up to the 30th of September, 1878; said claim amounting to $25,000."
This showed 250 shares of stock valued at market price 433 1186 each, total $8250.
Q. That is the entry; final entry in respect to that stock?
A. That is the entry—final entry in respect to acquisition of the stock.
Q. Is there anything to be found in the books showing the disposition of that stock?
A. There is.
Q. What?
A. Ledger No. one folio 118; the stock was sold in the year 1879, and netted $8250, the value at which it was received from the city.
Q. Will you just dictate the entry as it appears in the ledger?
A. May 3rd, 1879 credit of $500. July 31st, $635.00 August 9th, $2170. August 14th $930. August 30th, $930. September 11th $1240. September 20th, $620.00. October 2nd, $1225.
Q. What is there to indicate its relation to this stock; is there anything explanatory?
A. This is the ledger, the explanation would be in the book of reference.
Q. It is the ledger entry then, and not the journal entry, that you have just read?
A. Yes sir.
Q. That shows the manner in which the payments were received, I suppose?
A. Yes sir.
Q. Will you look at the book now given you by Mr. McNamara and state whether that is the book of record of the proceedings of the board of directors of the New Orleans Water Works Co. the date of the first record is April 2nd, 1878. Examining that record of proceedings, can you ascertain at what time you became connected with the water works company as an officer?

A. July 6th, 1882, I made a record in the minute book of the board of directors as secretary and treasurer.

1187 Q. Will you please look at the compilation of extracts from that book, marked Defendant's Offer No. 24, extract from proceedings of the board of directors, New Orleans Water Works Co. and state whether the certified copies made by Mr. McMurdough, the present secretary are correct transcripts from the proceedings of the various dates named there?

A. What do you want me to testify to, the signature?

Q. I want you to compare the abstract.

A. Yes, sir.

Defendant's counsel offer, introduce and ask to be filed in evidence Exhibit 24, extract from proceedings of board of directors of New Orleans —, subject to inspection and comparison with original by counsel for plaintiff.

Q. Have you in court the books that relate or contain the account of the Vonderbank and St. James hotel- from 1883 to 1892.

A. I really don't know; I know that we have a number of books here, but I don't know where.

Q. And the account of the Maginnis soap and oil works from 1878 to 1891 and the St. Charles hotel from 1879 to 1895.

Counsel for defendant offer, introduce and ask to be filed statement of the water account of the St. Charles hotel, Vonderbank's hotel and the Maginis oil and soap factory.

Cross-examination by Mr. FORMAN:

Q. You don't pretend to have any personal knowledge of that stock transaction?

A. None whatever; nothing but the record on the books.

By Judge BECKWITH:

Q. Did you find in the possession of the company, when you succeeded Bonneval, as you have stated on the stand any meters, either in the shape of junk, or in use?

A. Neither in use, nor in the shape of junk at all.

1188 Q. Did you know of any other meter at that time in the St. James hotel?

A. I did not.

Q. Did you know anything about the St. Charles hotel?

A. I did not.

Q. Did you know that there had been in existence at the time you became connected with the company any meter in service, or in any way in the possession of the company.

A. None that I knew of.

The witness is temporarily withdrawn.

Counsel for defendant offers, introduces and asks to be filed in evidence:—

1st. Documents attached to and made exhibits to defendant's answer; referred to in the answer and marked Answer Exhibits A, B, & C.

2nd. An attested copy of act of mortgage by defendant before James Fahey, notary public of date April 1st, 1879, marked Defendant's Offer No. 1. Plaintiff admitting that the mortgage has been duly recorded.

Also an attested copy of an act of mortgage, on same property made before C. T. Soniat, on December 22nd, 1892. (Plaintiff admitting the record of that paper) marked Defendant's Offer No. 2.

Also an attested copy of the proceedings of the meeting of subscribers to capital stock of defendant company, held on the 30th day of March, 1868, to reorganize defendant corporation, under the charter as attached to and made part of a notarial act of sale of the water works to defendant by the city, passed before Gustave Le Gardeur, notary, April 9th, 1878, the exhibit to which it is attached being one of the answer exhibits.

Also, one printed transcript, as printed by the Supreme Court of the United States of the record of the case of E. Conery Jr.
1189 *et als. vs.* New Orleans Water Works Co. and City of New Orleans, No. 10374 of the docket of the supreme court of this State, where it went on appeal, and # 1525 of the docket of the Supreme Court of the United States, for the October term thereof, 1889; where it went on writ; to which is added an attested copy of the mandate of the U. S. Supreme Court, and the proceedings thereunder in the supreme court of the State. It being agreed between counsel in this cause that the printed record in case of appeal need not be copied into the transcript but may be taken up in the original; this being Defendant's Offer No. 3.

Also record in the case of The National Water Pumping Co. *vs.* New Orleans Water Works Co. No. 44,546 of the civil district court, for the parish of Orleans, and No. 12,036 of the docket of the supreme court where it went on appeal; it being agreed by counsel for all parties that in case of an appeal the transcript of record in the case now in the supreme court (which is also offered in evidence) may be used in the court of appeal- without being carried up in the transcript in this cause.

Also, an attested copy of the pleadings, decree and proceedings subsequent to original decree in the circuit court of the United States, for the eastern district of Louisiana, in the case of The New Orleans Water Works Co. *vs.* Robert E. Rivers, No. 1056 of the docket of that court, and marked in this case Defendant's Offer No. 4.

Also attested copy of the proceedings and decree and subsequent proceedings in the circuit court of the United States, for the eastern district of Louisiana, in the case of The New Orleans Water Works Co. *vs.* The St. Tammany Water Works Co. and The City of New Orleans, No. 1003 of the docket of the circuit court of the United States, for the eastern district of Louisiana, marked in this cause Defendant's Offer No. 5.

1190 Also a printed copy of the Blank or Hatch tariff of water rates, purporting on its face to have been adopted by the

board of commissioners of said water works on the 18th of November 1868; to go into effect the first of December, 1868. Marked Defendant's Offer No. 6.

Objected to by plaintiff's counsel and the offer is withdrawn to be renewed hereafter.

Also extract from proceedings of the legislative department, and council of the city of New Orleans, and copies of promulgated ordinance, passed as per stipulation. Marked Defendant's Offer No. —. Said exhibit being received subject to verification.

1191 Civil District Court, Parish of Orleans, Div. " E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

Testimony for defendant in above entitled and numbered cause, taken in open court this 15th day of January, A. D. 1900, before the Hon. George H. Thea-d, judge.

Present: Messrs. B. R. Forman, Jas. J. McLaughlin and C. C. Frederichs, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt and E. Howard McCaleb, for defendant. Branch K. Miller, Esq. for Board of Liquidation.

FRANK T. HOWARD, recalled for defendant, deposes and says;—

Direct examination by Mr. KRUTTSCHNITT:

Q. Since you were la-t on the stand you have stated to me that there was some point in your testimony which you desired to explain; will you do so now?

A. Yes sir. On the day of my testimony the 3rd of January, I disposed of my bonds at three o'clock that day; so that now we have thirty-five thousand.

Q. You mean bonds in the Maginnis mills.

A. In the Maginnis mills, yes sir.

Q. At the time when this bill for water was incurred, or when you were negotiating with the water works Co. what were your holdings?

1192 A. Well, I couldn't tell you that exactly; we held a part of the floating debt, and we had about the same bonds as we have now, but I do not remember what the stock was; it probably was more than I have right now.

Q. Those bonds that you sold on the day that you testified, had you any agreement about selling them, in advance?

A. I had the day before, right here in court, Mr. Maginnis and I made the agreement; I was to bring them around that evening and get the check.

Q. Therefore you had an agreement to sell, but the delivery took place that day that you testified?

A. Yes sir; I held the bonds after I testified that—they were in my box.

Q. Is there anything else about the holding of stock or bonds?

A. Yes. It escaped my memory when Mr. Forman asked me what stock we held, that my two boys held a hundred shares each of water works company stock.

Q. In addition to those holdings which you speak of?

A. Yes sir; it escaped my memory that day.

Q. As to amount of the bonds of the Maginnis mills, you testified that you and your family held about 80,000 and as a matter of fact——

A. They held 75,000 at that time.

Q. And you still held 40,000 of those—— .

A. Yes sir.

Q. On the afternoon of the same day that you testified and after testifying?

A. Yes sir.

No cross-examination:

Judge Beckwith states that on the last sitting of the court an offer was made on the part of the New Orleans Water Works Company of a verified typewritten copy of extracts of the proceedings
1193 of the legislative department of the *the* council of the city of New Orleans, and copies of promulgated ordinances.

It is agreed between counsel that for the convenience of counsel and the court that in place of the tabulated abstract a printed abstract shall be supplied; which said printed abstract is now offered, introduced and filed in evidence marked Defendant's Offer No. 8.

W. L. McGary, sworn for defendant, deposes and says:

Direct examination by Judge Beckwith:

Q. How long have you been connected with the administration of the city of New Orleans and its affairs and in what capacity?

A. A little over three years and a half.

Q. In what capacity?

A. Commissioner of public works.

Q. What duty or what duties do you perform in reference to street-cleaning?

A. Well, of course I have the duty of having the streets cleaned usually by man power; do you mean in connectien with water?

Q. To what extent, if any, do you use fire-hydrants for the purposes of washing the streets?

A. Well, the men turn those on to flush out the gutters where they are working.

Q. But don't they turn them on to wash the street road, also?

A. We did last winter, yes, down in the business part of the town; washed the streets by the use of hose.

Q. How many gangs have you in the city that are engaged in the washing of gutters?

A. There are seventeen different gangs; they don't all wash the streets; the streets are only washed in the business part of the town—I have not done that this winter at all.

Q. Did you do it prior to January 1899?

A. Yes sir.

1194 Q. How many of the gangs were connected with that part of the city where you wash the streets?

A. How many gangs in that part of the city?

Q. How many gangs?

A. Three men are a hose gang—three had charge of the hose.

Q. I asked how many of those gangs were detailed to wash the street by hose?

A. Three men—one gang.

Q. Do you mean there was only one gang of three men engaged in washing the streets?

A. In one gang there is three men, that gang is a hose gang;—those three men were engaged in hauling about the hose.

Q. Yes, but what I [illegible]s, how many street-cleaning gangs have you got in operation, or did you have in operation at one time, each having three hosemen.

A. Only one gang and of that one gang three men were detailed for the purpose of handling the hose and washing the streets.

Q. And only one gang operating for that purpose?

A. Judge, if you will pardon me, there were two gangs, one was operating below town; I had forgotten that; that was all last winter, there were two gangs of three men to each gang.

Q. How many gangs have you washing gutters?

A. Well, all of the seventeen gangs in the seventeen wards use water, where there is a hydrant—they use water to wash out the gutters where they are usually working.

Q. During what hours of the day are they engaged in that?

A. From seven in the morning until five in the evening.

Q. And each gang is independent of the other, I suppose—in the question of opening hydrants?

A. Yes sir.

Q. So that it might be that seventeen gangs would have
1195 some hydrant operated by each gang—how many hydrants do they open at once?

A. Well: I should judge there were—I have no data on that; I should judge there are never more than fifty open at any one time.

Q. Do you state that from observation, or from conjecture?

A. No sir; from observation from time to time. From my general knowledge I should say there are never more than fifty at any one time open—possibly seventy-five.

Q. Do you remember whether you were in office at the time of the epidemic, 1897, I think it was?

A. Yes sir.

Q. Do you remember any time during that year—in the summer of that year, that they started a general opening of hydrants?

A. Yes sir.
Q. Under the direction of somebody?
A. Under the direction of somebody?
Q. Yes; somebody; I don't know whether it was the board of health or the city authorities?
A. Well, the board of health suggested—I was on a conference committee—the board of health suggested the liberal opening of the hydrants.
Q. There was a pretty general opening wasn't there under that——
A. Yes sir.
Q. Did you get any complaint at that time, from the water works Co.?
A. Complaining of a drop in the pressure, I got it from Mr. Craig and Mr. Gardiner, the following day.
Q. The opening began early in the morning, or in the night—didn't it?
A. Yes sir, late in the afternoon, late in the evening.
Q. Did they succeed in getting open a good many hydrants?
A. Yes sir.
Q. Before you were notified it was affecting the pressure?
A. I was notified the next day; I think, the following
1196 morning, I met Mr. Craig in the car coming downtown—that was the first I heard of it.
Q. Can you state about how many hydrants were opened, and in how many parts of the city, that night?
A. Well, without referring to it, I couldn't give you any exact data. I know my order to the superintendent was to open hydrants pretty liberally.
Q. And didn't they go along and open everything on the line?
A. Oh no sir, I suppose about every other one—I think—that is my recollection now, about every other one, as they came to them up there in front of the different wards, to let it flow back and around the markets.
Q. Do you remember about what time of the year that was?
A. I think about September, that is my recollection, September—August or September.
Q. Do you remember having a conference with the water-works authorities on the subject the next day—didn't you go to the office?
A. I don't rem-ber a conference; I don't recollect that; I remember talking with Mr. Craig about it and Mr. Gardiner about it.
Q. In the office, was it not; didn't you go there with the mayor?
A. The following day?
Q. The following day, or during that trouble?
A. Well I think some three or four days after that—yes sir—I believe it was three or four days after that, that I went to the office with the mayor.
Q. Was some kind of an agreement entered into, by which the number of plugs to be opened was limited, or regulated, by the joint action of your men and the water-works employees?
A. Not an agreement as I understand it, Judge. Mr. Craig ex-

plained to me the trouble of keeping up the pressure—it took some little time to explain, why the liberal opening of
1197 plugs—the wholesale opening of plugs would affect the machinery; I readily understood that, and there was a kind of a verbal agreement between us that the water works company were not disposed to be hard on the city at that particular time, and they were going to grant the city a good deal of water without contending for their rights to it; we asked Mr. Craig particularly—or Mr. Gardiner explained this matter of pressure and why my opening all the plugs would simply break the machinery and after I understood it, we never had any more trouble about it.

Q. For some time after that, there was a very liberal opening of plugs, wasn't there, for flushing purposes?

A. Yes sir.

Q. And how long did that continue, do you remember?

A. Well, the liberal opening—until the cold weather.

Cross-examination by Mr. FORMAN:

Q. You only washed the streets in the business part of the city, I understood.

A. Yes sir; that was last winter, I have not had the men since then to do it.

A. Why?

A. I have not had the men to perform it—also on account of the conduits, and I have changed the system a great deal because there is too much mud about the streets; I don't care to wash it down into the gutters; it gives more work.

Q. You sweep the streets, dry, is that it?

A. Yes sir.

Q. There are a great many streets where there is no hydrant water at all?

A. Yes sir.

Q. Did you ever try using sprinkling carts for the purpose of washing streets?

A. No sir.

1198 Q. Did you ever offer to do it, or attempt to do it?

A. No sir; the city has no sprinkling carts, unless you can possibly mean the sprinkling cart of Washington avenue, which is owned by the Washington Avenue commissioners.

Q. Do you use that?

A. The Washington Avenue commissioners have used that, and are using it now, I believe.

By Judge BECKWITH:

Q. I ask you if it is not possible that your men might do it without your knowledge; I ask you because I have seen them do it frequently in front of my office—if they did do it they would do it without your authorization?

A. Oh no Judge, there is a little gang that works along by sprink-

ling,—I mean by washing, but it is so small it amounts to so little, what they do, that it is hardly worth mentioning. There is a little hose gang, but there is no so much of it,—because of the added work—the streets are filled with mud that I do not care to wash down into the gutters, and that is the reason I have abandoned some of the cleaner streets—I still wash, but not to any extent.

Q. An hour, or two hours' use of a two and a half inch nozzle would dispose of more than a trifling amount of water, wouldn't it?

A. I don't think they use it an hour or two a day; I don't think they use it a half an hour.

THOMAS O'CONNER, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What relation do you hold to the fire department of the city of New Orleans?

A. Chief engineer, of the fire department.

Q. How long have you been in that position?

A. Thirty-one years.

1199 Q. That covers, of course, the period of time when there has been a pay department?

A. Yes sir.

Q. Do you know the number of engines that have been used generally for the extinguishment of fires, for the last twenty years?

A. Twenty years; yes sir, in the four city districts; the first, second, third and fourth municipalities we had nineteen; Algiers had their quota; Carrollton and the sixth district had six; altogether there was thirty-seven.

Q. How many were there, excluding the Algiers engines?

A. Twenty-four.

Q. You are speaking of what period of time,—before the paid department was organized?

A. Before it was organized; that is including the sixth district and Carrollton department.

Q. Do you remember the rate; or class of engines that they had in those days?

A. Well, we had some second, thirth, and fourth class engines.

Q. About what proportion were first, second, third or fourth class engines?

A. I couldn't tell you that, without going back and figuring on it.

Q. Can't you give us approximately how many of the high grade you had; we don't expect you to remember it exactly.

A. There was about six, second-class; six third-class engines and the balance were fourth-class engines.

Q. Were they maintained in reasonably good order?

Q. Yes sir;—you are speaking of the engines that were in service prior to inauguration of the paid department?

Q. Yes.

A. Yes sir.

Q. Now about what, as near as you can remember it, would
1200 be the capacity of each one of the second-class engines, to handle water per minute—taking water from the plugs, or from the fire-wells of the city?

A. It would be impossible for me to answer that question for the reason that we had no rule to go by; nor any reason to measure the capacity of those engines. An engine was brought to the city, tested and if satisfactory was put into service and the question of her capacity to throw water at fires was never questioned; therefore, we never took that matter into consideration; there were no records kept—no record made of her capacity.

Q. What size nozzle did you ordinarily use on those engines for the service?

A. Well, if there is water to be used, we use the largest nozzle we can get it from—from and inch and an eighth to an inch and a quarter nozzle, in other instances we use as small as half and inch or ¾.

Q. Depended somewhat upon the height you had to throw, didn't it?

A. No—it depended upon the quantity of water, as well as the distance we had to throw—the quantity of water we were receiving.

Q. Can you remember the size of the cylinder of the second-class engines; the water cylinders?

A. Yes, they were about four inches in diameter.

Q. And what length of st-oke on the pump?

A. Eight inches.

Q. About how much would be the longitudinal length of the plunger in the pump?

A. Eight inches.

Q. They were piston pumps, were they not?

A. Yes sir.

Q. Do you remember the longitudinal lenght of the piston itself, the diameter would be four inches, of course, but how thick would the piston be?

1201 A. No, I don't remember.

Q. Would it be two, three or four inches thick?

A. All the plungers of the engines were not alike, I didn't measure them; some of them were 2 and a half, some of them three, others three and a half. Formerly used leather cups upon *on* plungers; the pump plungers of the engine today are quite different; they have disks. We kept no record of the engines in the volunteer department at all; it is only since we have gone into the paid department that we give anything like that any attention whatever.

Q. I simply asked your best recollection of the matter, in the absence of records. Now, about what would be the average speed or revolution of the second-class engine—of the order you speak?

A. Well; that is regulated by the magnitude of the fire; if we had a fire in the commercial part of the city, we used to drive our engines with 125, 130 or 140 pounds of steam and run them up as high as 250 revolutions a minute; that is, as near as we could

guess; we never had a speed-regulator upon the -gines; had no occasion to try it, or test the speed, but judging from the manner in which the engines were handled I should judge we run all the way from 200 to 300 revolutions a minute.

Q. Do the second-class engines have two pumps or one?

A. Yes sir; the second-class engines are double-acting pumps.

Q. Two pumps, double-acting? Two double-acting pumps?

A. Yes sir; two double-acting pumps.

Q. Now, with the third-class engines, what was the size in diameter of the bore length of the pumps on that class of engines?

A. Three and a half by eight.

Q. Do you remember the longitudinal length of the piston there?

A. No sir; I don't.

Q. Probably wouldn't be any thicker or longer than in the second class?

1202 A. No, they would not be.

Q. At about what would you fix the average number of revolutions of the third-class engine pumps?

A. Well; that is a matter of opinion; I would have to answer that question as I did the previous one; it is all guesswork; I never used a speed-regulator on any of my engines.

Q. Well, would you put the number of revolutions at the same, or about the same then, as the second-class?

A. I should judge, if the engines were driven very hard, it would be about the same thing.

Q. Now, the fourth-class engines?

A. The fourth-class engines, in the volunteer department, were all single engines.

Q. Single pump?

A. Single-pump engines; double-acting.

Q. About what would be the internal size of the pump cylinder of the fourth-class engines?

A. Some of them were five inches; and some of them were four and a half.

Q. About what length of stroke?

A. Eight-inch stroke; we had twelve—at one time we used four engines with a nine-inch stroke; the others were 8-inch stroke.

Q. Driven by the same pressure of steam and making approximately the same number of revolutions, when crowded, as the second and third class?

A. Well, I wouldn't be positive as to that; I have to answer in the same way. There is no rule to go by; they would just carry all the steam we would find necessary to drive an engine to do efficient service.

Q. Do you remember the longitudinal length of the fourth-class engine?

A. No, I know there was two plungers with leather cups on them, they were about two and a half inches.

1203 Q. You had some rotary pumps also, didn't you?

A. Yes sir.

Q. How many of those engines were rotary pumps?

A. We had one rotary here in the first city district and one in Carrollton, if I remember correctly.

Q. Have you any means of knowing, or approximating how much water they would throw in a minute?

A. No sir; I have no knowledge.

Q. Are those as efficient of the same class of direct pumping engines?

A. No, their pumps are of different construction; the engine that was used in the first district was classed as a second-class rotary engine; the one in the upper district—Carrollton—was classed as a fourth-class—much smaller engine.

Q. You have no means then of determining, or fixing your recollection, by comparison, or otherwise, whether they were equal in water-throwing capacity to the second, third and fourth class direct pumping engines?

A. No means, whatever.

Q. Were they considered any more efficient than the third class of engines?

A. No sir, they were no more efficient.

Q. Now, coming down to the inauguration of the paid department; what installation of fire-engines have you had since that time?

A. As to size and class?

Q. Yes.

A. Four first-class, 4¾ pumps, 8-inch steam cylinders; eight-inch stroke. Two first-class 4¾ pump, eight-inch steam cylinder, and seven-inch stroke.

Q. Have you got a detailed statement there?

A. Yes sir. Taken from the contracts made with the builders; here are all the contracts; these are the engines that we have 1204 in service today.

Q. What does this memorandum represent; and what period of time does it refer to?

A. Some of them are in two or three years; that you will find by the contracts; here are the contracts on all the engines.

Q. You have examined them, haven't you?

A. I didn't take the dates of service of those engines; it is all there, though.

Q. This tab*l*uation that you refer us to, does not give the amount of water that these engines are guaranteed to throw in a minute?

A. Well, there is no guarantee of any quantity of water, made in the contract with the dealer; but as a matter of information for myself I obtained from the builder, after some of those engines were sold to the department, these statements which show the capacity of the engine; that is matter that I obtained for my own information, for there are often inquir-es made from outside cities as to capacity of such and such engine and that is why I obtained it.

Q. This statement purports to be the amount of water thrown per stroke by the double pump?

A. Yes sir, those five sheets represent the engines; down to this line here; this lower—single engines, are only guesswork; they represent those double engines here, these five sheets, I have no data concerning these five single engines.

Q. As to the five single engines enumerated on that sheet the estimates were made by you from the best data that you could get, were they not?

A. Yes sir.

Counsel for defendant, offers, introduces and asks to be filed in evidence sheets of data refer-ed to by witness marked O'Conner 1.

1205 Q. How are those engines distributed?

A. The larger engines are placed in the commercial part of the city, and the second size, and so on, nearest the commercial part, and so on.

Q. And the smaller ones in the suburbs?

A. In the suburbs, yes sir.

Q. When an alarm of fire is sounded in the commercial district, how ma-y engines does it call to the fire.

A. Well, it would depend upon what box is sounded and the location of the fire, four to five or six.

Q. How are the men at the engine-houses to judge whether they are to go on the first alarm; have they a list of the boxes given them?

A. Yes sir; each of them has its list of boxes that they respond to on the first alarm.

Q. Now, at the second call, how many more engines would go.

A. Well, that depends upon the location altogether; some second alarms bring two, three or four engines; it depends upon the condition of the locality and so on.

Q. What would a call from Tchoupitoulas between Canal and Poydras bring, on the first alarm?

A. That would bring five engines.

Q. What class engines?

A. Four of those would be first-class, $4\frac{3}{4}$ pumps, eight-inch stroke.

Q. What would the other one be?

A. The second call?

Q. No, the second-class engine, or lower than first-class engine—you say five engines would come, four of them would be first-class.

A. The fifth engine would be a first-class engine, seven-inch stroke, a difference of one inch in the stroke.

Q. Larger or smaller?

1206 A. Smaller.

Q. Now, upon a second call in that locality how many engines more would come?

A. Six engines.

Q. What class would they be?

A. One of them would be a first-class engine, $4\frac{3}{4}$ pumps, with seven-inch stroke. Two of them would be second-class engines, $4\frac{1}{4}$ pumps, 7-inch stroke; three of them would be $3\frac{3}{8}$ pumps with seven-inch stroke.

Q. In a general alarm, how many more engines would come?

A. That is what would respond on a general, or second alarm to that point.

Q. Have you no third alarm?

A. No sir—well, we have what is called a repeated general alarm that would concentrate everything within the fourth municipal district, the first, second and third, with the exception of two engines.

Q. You say that would bring them all, a repeated general alarm?

A. Yes sir.

Q. That would be how many in all.

A. Five more engines.

Q. What class would they be?

A. One of them would be a second-class engine, 4-inch pump and eight-inch stroke.

Q. Single pump or double?

A. Double-pump engine, double-acting.

Q. Double-acting on a single pump—but where they have two pumps——

A. Yes sir, two pumps double-acting one of them would be 3⅞ by 8, and the other is a single-pump engine 4½ by 7.

Q. Through what district, or in what district would that number of engines respond on the first call, of either class; can you give us about the limit of the district.

A. I don't understand your question.

1207 Q. I understood you to say that certain boxes in the city fire-alarm limits, would call out the engines that you spoke of, on the respective calls?

A. Yes sir.

Q. I have asked you the area of the district where such a response would be made.

A. Tchoupitoulas to Rampart, from Canal to Julia; there may be one less there to Julia street, might break out one engine there or two.

Q. Does the district extent below Canal, also?

A. Yes sir, but they would not get the same number of engines on the second call, or general alarm; but we would get them on a repeated general alarm.

Q. Now, outside of that district which you have just given us, what engines would respond to the first alarm of fire.

A. Taking any box?

Q. Yes, any box.

A. Well, take box 142; St. Louis and Royal; designate that box here—that box, on first alarm we would get five engines.

Q. Of the same class as you have stated in reference to Tchoupitoulas street?

A. No sir; we would only get two first-class engines to that alarm; that is, with 4 and ¾ pump, and eight-inch stroke.

Q. How far does that district extend, where you would get that response?

A. Well, on a second, or general alarm we would get six engines, from a second or general alarm to that box; on a repeated general alarm we would get the balance of the engines, with the exception of two, leaving the upper and lower ends of the city protected.

Q. Does the response that would be made from the box you *name* named, represent the response that would be made to any call in that immediate district?

A. Yes sir.

1208 Q. Is the the lowest number of engines that would come to any particular call in the city?

A. No sir, there are some boxes that are not as important as that, where there would be a lesser number of engines.

Q. Well, we will say up above First street and Magazine.

A. They would get four engines there on the first call.

Q. What class?

A. We would get one first-class, $4\frac{3}{4}$ pump, with seven-inch stroke one second-class $4\frac{1}{4}$ by seven, two second-class $4\frac{1}{4}$ x 7 and one third-class engine $3\frac{5}{8}$ by 7.

Q. A general alarm would bring in how many more there?

A. Bring four more engines there, sir.

Q. What class;

—. Two first-class and two third-class engines.

Q. What would a repeated general alarm bring?

A. Six more, sir.

Q. What class?

A. Two first-class, $4\frac{3}{4}$ x 8. One second-class 4 by 8, and three third-class $3\frac{5}{8}$ by seven.

Q. How far up First street is that district where that response—what is the upper limit of the district, where that response would follow an alarm?

A. Harmony street.

Q. Where is the street with reference to——

A. Just above Ninth.

Q. Above that street, what would be the response to the first call?

A. Three engines at the first call from some of the boxes and two at others.

Q. What class of engines would they be?

A. There are two third-class $3\frac{5}{8}$ x 7; those are double pumps; one single-pump engine 5-inch by eight-inch stroke.

1209 Q. A second call would bring what additional number of engines?

A. They telephone for such engines as they want into that district—that has six, that district third fire district; they would get an additional number of four engines.

Q. What would a repeated alarm call into that district?

A. Under the present system of fire alarms, we don't strike a general alarm for that district; we have no means of doing it; we telephone for such companies as we want.

Q. How many water towers have you?

A. One water tower.

Q. How is that water tower operated; by what power?
A. By fire-engine power; that is, we attach two or three engines to the water tower and drive the water through it.
Q. So that it is inert without you use fire-engines, isn't it?
A. No, we have never used it without engines.
Q. Has it any steam power of its own?
A. Has no power of its own more than to elevate it; has a chemical tank upon it, by which it is raised.
Q. But it has no motive power of its own, for pumping?
A. No, sir, no motive power for execution.

Cross-examination by Mr. McLAUGHLIN:

Q. You spoke about the size of the suction; are all the water plugs of the city, the openings, of a uniform size?
A. No sir.
Q. Didn't you complain to the city council some years ago that it was necessary to have them of uniform size?
A. Yes sir.
Q. Is that a copy of the ordinance that was adopted by the council in response to your request?

Mr. Beckwith objects.

1210 A. I know there was an ordinance passed by the council in respect to this matter, but I don't remember that particular ordinance; I don't remember the wording of it.

Counsel for plaintiff offers, introduces and asks to be filed in evidence document marked O'Connor No. 2, being copy of ordinance # 1192, council series.

Counsel for defendant objects on the ground that — is not proper cross-examination.

Q. You spoke about these engines, the size and capacity of them; did the board of fire commissioners test these engines after they received them and find out whether their capacity conformed to the specifications from which you made your tabulation?
A. They never test them for the capacity of water to be discharged in a given time; their examination is to take the engine out to a well and test it to see that it will receive and through the water.
Q. Do they make a test that would show a different result from what you show in your tabulation?
A. Not that I am aware of—I know they have not.
Q. Since you have been chief engineer of the fire department, have those engines always been able to get — from the pipes?

Objected to as improper cross-examination.
By the COURT: I am inclined to give the widest scope on cross-examination and not to limit it to matte- that have been elicited on the direct examination.

Q. Since you have been chief engineer of the fire department, have

those engines always been able to get from the pipes sufficient water to extinguish the fire which they were called to extinguish?

Objected to by defendant counsel for two reasons:

1st. That it is not cross-examination; and second, that it is too vague and indefinite in this that whether they got sufficient water to put out fires, there are fires that cannot be put out under
1211 any circumstances.

Q. I will change the question. Since you have been chief engineer of the fire department, have those engines always been able to get from the pipes sufficient water to supply your engines?

The objection is renewed.

By the COURT: I overrule the objection.

To which ruling of the court, counsel for defendants except and reserve this note in lieu of a bill.

Q. Since you have been chief engineer have you been able to get sufficient water to supply the engines?

A. Do you mean for fire services?

Q. Yes.

A. There have been some instances where they could not.

Q. Name some of those instances.

A. That is rather a peculiar question to answer; we have alarms of fire for certain boxes where five engines would come in and there wasn't enough water to supply the five engines. But still it would supply some of them—the water mains would supply some of them.

Q. You have answered Mr. Beckwith as to localities, the names of which he gave you, where a certain number of fire-engines would respond?

A. Yes sir.

Q. Now are there any of those boxes where those certain engines could not get enough water for their purposes when they got there?

A. Yes sir.

Q. Take some of the boxes that Mr. Beckwith mentioned——

A. One box # 74, Natchez and Tchoupitoulas—some years ago, there was a fire that we got too many engines on the Tchoupitoulas Street main; instead of going to the Poydras Street main,
1212 they attached to the Tchoupitoulas main and exhausted the supply, at that time we were depending for the supply of water on the gravity pressure of the reservoir and failed to get a supply for all the engines.

Q. Do you make annual reports to the fire department?

A. Yes sir.

Q. Embodying your observation of these fires?

—. ——.

Q. Embodying your observation of these fires and of the water supply for the fires?

A. Well, I have written papers on the scarcity of water, at different times.

Q. I will show you a book, called "Annual Reports of Fire Com-

missioners" marked 1892 to 1898, inclusive; this book contains a number of reports signed by you as chief engineer of the fire department; will you look at those reports and see if you made them, and if they are correct—examine them.

A. Yes sir; I made these reports.

Q. Are they correct?

A. Yes sir.

Counsel for plaintiff offers, introduces and asks to be filed in evidence reports referred to by witness, and marked O'Conner No. 3.

Offer is objected to by defendant'- counsel.

By Mr. BECKWITH: How much of these reports are offered?

By Mr. MCLAUGHLIN: The chief engineer's report on the subject of water supply and it is restricted to that.

Counsel for defendant, wishes time to examine the reports in order to question the witness about them.

By the COURT: You may recall the witness after having made the examination.

1213 By Judge BECKWITH:

Q. Prior to this book having been presented to you, Mr. O'Conner, you named one instance of a fire where you claimed that there was insufficient water supply at Tchoupitoulas and Natchez; do you remember what date it was; and what building it was that was burned?

A. There was one instance occurred in 1889, I remember that Mayor Shakspeare was on the ground when the second-alarm engines came in and took the water from the pipes that the first-alarm engines were taking from; water was scarce on that line, but after a while when the Poydras Street well was opened there was an abundance of water furnished, there being a thirty-inch main on Waters street that supplied that well.

Q. There are two wells are there not, one on the corner and one on Poydras, up to the front?

A. Yes sir.

Q. Will you please tell us who directed those engines to take their positions on the plugs on the Tchoupitoulas Street main—had you reached the place?

A. On the arrival of an engine at the scene of a fire, the captain directs them as to what one they will take water from.

Q. Do you remember what size of main was between Tchoupitoulas and Poydras?

A. Tchoupitoulas main?

A. Yes, do you remember what size it was, at that time?

A. Six-inch.

Q. How many engines hooked onto that main?

A. There was three or four engines hooked onto it but we were then using the gravity pressure from the reservoir and I complained about the water; and the president of the company ordered that they pump directly into the pipes, thereafter.

A. That was a small building corner of Natchez alley——

1214 A. That was building at the corner of Poydras and Tchoupitoulas streets.

Q. There was a sixteen-inch main on Tchoupitoulas, or larger, wasn't there?

A. On where?

Q. On Poydras I mean.

Q. There was a large main on Waters street that supplied the well that flooded the gutters.

Q. Yes; but wasn't there a large main also on Poydras?

A. Not at that time.

Q. Sure of it?

A. Not that I remember.

Q. Do you know the size of the well that sent its water down Poydras street from the 30-inch main.

A. Yes, I believe that it was an eight-inch valve supplying it.

Q. Why wasn't that opened at once?

A. I don't know, as I was busily engaged with the fire at the time if we could get that well open, we could get a good supply of water.

Q. Is there any one at the fire whose particular business it is—before you get there—to direct the water supply?

A. No sir; the captains select the most advantageous points *put* put their engines to hook on at.

Q. On the first call of four engines, was their any person designated to look after opening wells, or do they get opened generally—somebody have that duty?

A. No sir.

Q. There is no one designated to look after it?

A. No sir.

Q. Well, there is a well on Poydras street and Front, as it appears by the evidence, with two six-inch deliveries into it; do you know whether one or both were opened.

1215 A. On which well?

Q. The well on Poydras and Front, two six-inch deliveries?

A. I do not.

Q. Well the one on Gravier and Front, as it appears, one eight-inch delivery; do you know whether that was open at all, or not?

A. I don't remember.

Q. Consequently you don't remember whether it was full o*epn* or not?

A. I do not.

Q. Wasn't it true that both Gravier street and Poydras street were flooded with water, during that fire, running back?

A. You mean the fire of 1889?

Q. The one you spoke of.

A. Poydras street was flooded, after we got the Poydras Street well open.

Q. Wasn't the same true of Gravier street?

A. I don't know ; I didn't see Gravier street.

Q. Well then, your impression about there not being water enough there, came from the fact that the number of engines that hooked onto the Tchoupitoulas Street main, exhausted that main?

A. Yes sir.

Q. How long would it take that engine, when you found it overtaxed the main to move to some other place either on Gravier or Poydras?

A. Well it does not take them long ; I cannot say exactly ; if they have a main close by they can move in from five to six or seven minutes.

Q. Do your engines carry baskets for the suction?

A. Yes sir.

Q. You spoke, I think of some other fire there?

A. Yes sir, there was a fire corner Natchez and Tchoupitoulas where the first-alarm engines took off the six-inch main on Tchoupitoulas street; that was, I believe in 1897, and the second-
1216 alarm engines took the water above, some distance, and cut those off that were getting a good supply of water, so that we had to change positions on that occasion.

Q. What wells were opened at that fire?

A. Gravier Street well was one and Poydras Street well was one, and then there was an additional ten-inch main laid down that street alongside of the other from Girod to Canal street. I made a complaint to the mayor about it and the president of my board took the subject up and the present mayor applied to the water works company and they increased the capacity by putting a ten-inch main down from Girod street to Canal.

Q. Yes, but was that main open at the fire you speak of?

A. No sir.

Q. Didn't they open a Camp Street well?

A. For this fire I speak of now?

Q. Yes.

A. No sir, they did not open a Camp Street well.

Q. Are you sure of that?

A. They may have opened a Magazine Street well, but they would not on Camp street, for that fire.

Q. What makes you think they wouldn't do anything like that?

A. Sir?

Q. What makes you think they wouldn't do anything like that?

A. Because it would be too far away to take the supply from.

Recess being taken at this point, on reconvening of court, Mr. Beckwith says that during recess he has examined the book offered by plaintiff containing reports of Chief O'Conner, and understands the offer to be only that portion of the report under the caption of water supply, which has now been marked around with ink ; that with the offer limited to that extent he has no examination at all on the subject of the report.

Counsel for defendant, offer, introduce and ask to be filed in evi-

dence document marked Defendant's Offer No. 21, list of fire-alarm stations in the city of New Orleans.

1217 HENRY C. BROWN, sworn for defendant, deposes and says:

Direct examination by Judge BECKWITH:

Q. What is your age and occupation Mr. Brown?
A. I am sixty years old and I am a civil engineer by profession.
Q. How long have you pursued that avocation, or profession?
A. Forty years, sir.
Q. Were you ever, at any time, connected with the administration of city water works, at the time when the- were operated by the city, and after the sale to the city by the Commercial bank?
A. Yes sir.
Q. During what years?
A. From the 1st of December, 1872 until the first of December, 1874.
Q. What was your position?
A. I was superintendent.
Q. Superintendent of water works?
A. Water works and public buildings.
Q. Under what administration?
A. Under the Wiltz administration; the Hon. Chas. Fitzenritter was administrator of water works and public buildings, at that time.
Q. What were your duties in connection with the water works?
A. As general superintendent I had full charge of everything pertaining to supply of water in the city; everybody was under my directions.
Q. What, if anything, did you have to do with the collection of water dues?
A. Nothing at all, sir, except in case of dispute.
Q. Well state——
A. As to the collections, I never collected any money.
Q. The assessments?
A. I had all to do with the assessment.
Q. What condition were the works in when you took charge of them; what was the condition during the time you had charge of them?

1218 A. Well sir, when I took charge there were two double engines there at the works one was designated as the large engine, and the other as the small engine—the small engine was in tolerable fair order; the larger one was dilapidated, out of order and very little use.

Q. The large engine; was that the newest, or the oldest of the engines?
A. That was a new engine, a beam engine?
Q. Double beam engine?
A. Yes, double beam engine.
Q. What was the condition of the distribution system of mains?

A. There was no attention paid to the limit of the mains, in regard to size, or as to dimension or diameter of the mains at all. Now I will give you an instance, on Front street there was a thirty-inch pipe laid from Canal street to about Calliope; thirty inches in diameter; this pipe was supplied by two mains, one 16 and one 18 inch, leaving about one-third of the capacity of the 30-inch pipe not in use at all.

Q. That is, you mean that the arterial, or distributing system was not under proper adjustment?

A. No sir; it was not; this thirty-inch main should have been brought up to the works and connected with one of the engines at the works.

Q. How were the pumps at that time connected on the delivery side?

A. They were both connected with a steam pipe, 36-inch pipe.

Q. How, if in any way, would that effect the use of both engines at once?

A. Couldn't use them both at once, sir, the pipe didn't have the capacity to carry off the water that both engines could supply, and not having that capacity if you went to use both engines it would have been very disastrous to the old or smaller engine; in other words, it would have disabled her.

1219 Q. That is, the large engine being strong would work aback against the small engine, through the steam delivery main?

A. Yes sir.

Q. Will you tell us how the supply was furnished to the city; whether from reservoirs or from the direct pressure.

A. During the day the water pumped direct through the pipes but in the night-time we used the small engine and pumped into the reservoir; that is, that portion of the reservoir that was standing; but in case of fire during the night we immediately hooked on our large engine and pumped directly into the pipes, as that would give better results pumping into the pipes, than the reservoir pressure.

Q. How far uptown did the pressure system of distribution exist at that time?

A. Not above Jackson street, sir.

Q. How far downtown?

A. Well, it went all the way down; there was a plug down as far as Poland street.

Q. Were there any large arterial mains running down there?

A. No sir.

Q. On an average, how many hours a day were the engines kept in motion?

A. Well, the big engine pumping during the day, pumped about ten hours, the other from six to seven hours in the night.

Q. About how much was the general call for water by the city?

A. From five to seven million gallons a day.

Q. Do you remember the maximum; about what the maximum

would be—do you remember any maximum call for water above seven millions?

A. No sir, although on Saturdays we frequently pumped 9 million.

Q. Why was the call larger on Saturdays?

A. The city department would always clean the streets on Saturday and use a great amount of water; in fact, sometimes used more than we could give; I have frequently seen it utterly impos-
1220 sible to get water out of a plug below St. Peter's street.

Q. About what pressure would be the maximum pressure, you would get, down as low as Canal street, and below?

A. I was never able to get over 22 or 23 feet at the water-works office; I believe, once or twice, we did reach twenty-five feet.

Q. The Dryades Street office was on Dryades street near Canal, between Canal and Common; that is the one you speak of being the point where you would name the pressure?

A. Yes sir.

Q. Was that exceptional pressure, or general pressure?

A. It was exceptional sir, fourteen feet on Saturdays was a good pressure.

Q. How were the water rates to consumers and the inspections necessary to fix the amount, carried out?

A. Well, an assessment was made on what was presumed to be the Bragg or Hatch tariff, but the inspection had never been properly carried out; I have seen houses assessed for one hydrant at $14. I made a personal inspection of these houses, and I found in some instances, urinal, water-closet, and stationary wash-stands on the lower floors, and they were paying $14.00 a year, when they should have been paying a great deal more; they were not paying for anything except the one hydrant.

Q. That would be the fault of whom?

A. Fault of the inspector, sir.

Q. Will you look at the paper I now hand you, marked Defendant's Offer No. 6, and state if that is the tariff you refer to as the Hatch, or Bragg tariff, and the tariff used at the time you were in the works?

A. Yes sir, that is the tariff, I have one individually and I have been familiar with it since 1872, as I was called in, in 1882, by Mr. Houston on this same matter.

Q. Did you ever have in the office, or ever see used, any other schedule of charges, or tariffs, than the one that you hold in your hand?

1221 A. Never saw anything in the office there, during my time, except this, if there was, I would have known it.

Counsel for defendant offer, introduce and ask to be filed in evidence the tariff referred to by witness marked Defendant's Offer No. 6.

Q. You spoke of being called in at times to adjust disputes between assessors and consumers; do you remember what the general character of these disputes was?

A. The consumer always claimed he was being assessed for more water than he used.

Q. What was done in such cases?

A. Well, I generally found it to the contrary; with no exception. I do not remember an exception where a consumer was assessed—where the complaint was made—that the consumer was not assessed properly. The complaint generally came from the inspector himself, for those people would not agree to the assessment made by him.

Q. In such cases, what did you do?

A. I would arrange the assessment myself and make them pay it; and if they didn't pay it, close the water.

Q. Were there any instances of people who were poor, or complained, in which any abatement was made, from the tariff?

A. We never made an abatement; we tried to collect all we could; there was a great deal of water furnished to people with political pulls.

Q. Did you examine the water works, at any time afterwards?

A. Yes, I have made several examinations of the entire plant, in 18878, at the instance of Hon. Charles Cavanac; he was at that time administrator of commerce; it was directly after I made the examination—directly after the legislature had passed their bill authorizing the city to sell the water works—I think the bill was passed in 1877, some time, and I made this examination in January, 1878.

1222 Q. Was that examination for the purpose of arriving at an engineering estimate of the value of the works?

A. Only the condition.

Q. What did you find the condition to be then?

A. I found the condition about the same as it was in 1872, with five years' additional wear and tear; the deterioration had been about that much, with the single exception that about three miles more of pipe—more of mains—had been paid in that five years, as there was when I took charge of it in 1872.

Q. To what extent did the plant enlarge during your administration?

A. About (8,000) eight thousand feet.

Q. Was that replacing cement pipe, or lead pipe, or carrying the distribution into other districts?

A. Principally carrying the distribution into the fourth district.

Q. How far up did you succeed in going, during your time?

A. I got up to about Washington, on Magazine.

Q. Do you remember what kind of a main it was?

A. An eight-inch main on Magazine street, and a six-inch main on St. Charles, up, I think, to First; that is my recollection.

Q. Did you, at that time, establish any main arterial system for the purpose of feeding this long six-inch main?

A. No sir.

Q. When you examined the works last, in what direction did you find the extension to have been carried after you left?

A. It had gone up still again, sir—uptown.

Q. Do you remember whether there was any considerable amount of cement pipe in the system when you were there?

A. When I took charge there was about three miles of cement pipe, which was almost utterly worthless; I believe the cost of repair of cement pipe, that three miles of cement pipe was about one-third of the cost of the repairs on the other entire 58 miles of pipe.

Q. Do you remember about how much the total pipage was, when you were superintendent?

1223 A. Yes sir; it was about sixty miles, sir, I know that was about it, but in 1878 I made an exact measurement, as near as I could of the pipage, that I think made, I know exactly what that is.

Q. What was it then?

A. It was 63½ miles about.

Q. Was that one of the objects, at the time of your examination, to get at the exact amount of pipe, as near as you could?

A. Yes sir; the idea of measuring the pipe—Mr. Cavanac wanted—it was under the ground, he had a vote on the question and he wanted it tested; I was working for Mr. Cavanac as his superintendent of wharves and landings at the time; that was the way I came to make this report.

Q. You afterwards occupied the position of city surveyor, didn't you?

A. Yes sir.

Q. During what years?

A. I was elected in 1878, December 1878 and I served until the 15th of September, 1880, when I resigned to accept a position on the State board of engineers.

Q. Well, during the time you were city surveyor, did you see, or have anything to do with any extension or change of the plant being made, the distribution of the plant, I mean?

A. When I was city surveyor the present company at that time had acquired the water works and as a matter of course they had to lay the pipe under my supervision; that is, I had general supervision of it and they did lay considerable pipe; they did a great deal of work in the yard; in the water works that I didn't know anything about; it was in their private property and I had nothing to do with it; but after they got on to the street I know about what they did do, although I couldn't begin to give you sizes, or anything else of the pipe; except where it made an impression on me. They laid a thirty-inch pipe from the yard down Tchoupitoulas street to Race—a thirty-six-inch pipe I

1224 think that was, but anyhow, they laid a large pipe out as far as Camp; then they laid from the corner of Felic-yt road and Camp to Esplanade, a thirty-inch main all the way through; that was laid in 1878 or 1879, I think, or 1879 or 1880; I know it was finished before I went out of office.

Q. You spoke about having been called in by somebody from the

water works to go over the subject of the administration of the water works, by Mr. Houston; I think, about what time was that?

A. That was in 1882, I think.

Q. For what purpose were you called in?

A. He was superintendent at the time and he was having a great deal of trouble collecting his water rates, and his idea was to make a new tariff and I was there I suppose eight or ten different times; and at different times I spent hours with him; we went over the tariffs of different cities, I contending all along that the Hatch or Bragg tariff was a good, equal tariff, not excessive or oppressive in any way, and on my representation Mr. Houston finally told me that he would stand on that tariff, and I believe he did.

Q. Did you, during your administration as superintendent, and in charge of the works here, have any tariff adopted by the city council in 1870——

A. No sir.

Q. There was no such schedule in your office?

A. No sir. There never was during the time I was there; there never was any tariff except the tariff adopted at the Hatch commission who had charge of the water works immediately after it reverted to the city from the Commercial bank.

Q. Was there a stand-pipe connected with the service at the station at the time you were managing the works?

A. No sir; nothing except the reservoir—there was one-half of the reservoir at that time standing; the other half was de-
1225 stroyed—had been destroyed, one end was blown down—blown out of this reservoir and the part that was standing only had a capacity of about two million gallons.

Q. Was it safe to fill this reservoir full?

A. I didn't consider it so, sir; the best proof in the world, one side *and* given way when it was not full and I was afraid of the other, the dividing wall was very frail; I never filled it. I don't suppose at any time either one of the compartments held 700,000 while I was there.

Q. At what time, after you began pumping direct into the mains for a part of the day's supply; about what time of the day did you begin to fill up the reservoir for the night service?

A. About four o'clock in the evening, sir; I then pumped directly in them until eleven or twelve o'clock at night.

Q. The water was then running out of the basin by gravity?

A. Yes sir.

Q. How much of a settling device was that, for settling the sediment?

A. What for one day's——

Q. Yes, running in and out.

A. Why, it was nothing sir, it would not settle anything; it took a year to settle two feet so as to get two feet of sediment.

Q. The water would be passing through there with a rush, wouldn't it, when you were feeding the city from the reservoir?

A. Yes sir; as a matter of course where the water went in at four

o'clock in the afternoon; if there was any demand for it at all that same water was in the pipes in two hours.

Cross-examination by Mr. FORMAN:

Q. I understood you to say, Mr. Brown, that when you first took charge of the water works there was a thirty-inch pipe fed by two other pipes, one 18 and the other 16?

A. Yes sir; that is what I said.

1226 Q. That was the size?

A. That was the size; the thirty-inch pipe extended from Canal street to about Calliope——

Q. And then from Calliope up to the pumping station, were two pipes which fed into that—18 and 16—is that right?

A. Yes sir.

Q. What is the superficial area of the thirty-inch pipe?

A. What, the whole length of the pipe?

Q. No the suction; I mean the superficial area of its suction; the square inches of the diameter.

A. That would make it nine hundred inches in diameter.

Q. Sir?

A. The square of thirty would be nine hundred.

Q. If it was a square, but the pipe is circular, I suppose, it was not a square pipe?

A. I understand and neither was the 18-inch or 16-inch a square pipe—the capacity of the thirty-inch pipe for all practical purposes would be the square of thirty; the capacity of the 18-inch pipe and the 16-inch pipe would be the square of 18 and the square of 16; that would be near enough for all practical purposes to determine the relative capacity of the three pipes.

Q. You never heard of the city council having adopted a tariff in 1870?

A. No sir, I never did.

Q. You knew nothing about that at all?

A. Never saw it.

Q. Were there any books in the office of the water works in which the individual assessments were recorded?

A. Yes, the regular assessment books.

Counsel for defendant, offer, introduce and ask to be filed in evi-
dence hydrant books and assessment books of the city of New
1227 Orleans during the period of its ownership marked one to forty-two inclusive; and the collection books of the city; the hydrant books; being marked A, B, C, D, and E, with the title of the case and "city hydrant books, assessment and collection books" respectively.

To which the State objects unless the hydrant ledger, or other books showing the service rendered and quantity of water consumed are produced.

Which objection is by the court overruled as going to the effect and not the admissibility of the evidence.

Counsel for defendant offer, introduce and ask to be filed in evidence report of the department of water works and public buildings of the city of New Orleans made December 19th to December 31st, 1897, being the report of James D. Edwards, marked "Defendant's Offer No. Ten."

Also offers, introduces and asks to be filed, the pleadings exhibits, decrees and orders in the care of The National Water Purifying Company against The New Orleans Water Works Company, No. 44,548 of the docket of the civil district court; also, at the same time offering the entire record of that case, as it is in the supreme court, under the number 1236, marked "Defendant's Offer No. 11."

Also offers, introduces and asks to be filed in evidence, the transcript as it exists in the supreme court, to be used in that court without being carried uo anew in the transcript.

Also offers, introduces and asks to be filed, document marked "water rates and tariff adopted by water works company in 1878 with the rules and ordinances attached thereto marked "Defendant's Offer No. 12."

Also offers in evidence statement of taxes paid to the city of New Orleans, by the New Orleans Water Works Company; and also the amounts paid to the city of New Orleans by order of Judge
1228 Billings, being amount of a dividend on 4344 shares; marked Defendant's Offer No. 13.

Also certified copy of the proceedings of the meeting of the shareholders of the N. O. Water Works Company to reorganize the corporation under the charter, marked "Defendant's Offer No. 14."

Also statement of the first and second mortgage bonds issued with dates of issue and dividends declared, with dates of declaration marked "Defendant's Offer No. 15." Also statement of the bonded debt of the city of New Orleans, marked "Defendant's Offer #16."

Also offers, introduces and asks to be filed in evidence sworn copy of report of the committee of the common council of 1886, investigating the water works——

Objected to as *res inter alios acta*, hearsay, and secondary evidence.

Offer is withdrawn.

Also, offers, introduces and asks to be filed in evidence, bills rendered by the city of New Orleans to, and paid by William Golding, marked Defendant's Offer No. 9 with the sublettering of A, B, C, D, and E; being the same receipts as were filed in evidence in the case of Isaac Levy *vs.* The New Orleans Water Works Company.

Also offer, introduce and ask to be filed in evidence document marked Defendant's Offer No. 19, being alum and lime account of the New Orleans Water Works Company; expended during the effort to filter water, under a contract with the National Water Purifying Company.

Also offer, introduce and ask to be filed in evidence, copy of ordinance No. 12,026, council series; an extract from Flynn's Digest on Ordinances of the City; eidtion of 1896, page 117, *et seq.* Sworn to and marked Defendant's Offer No. 32.

1229 RICHARD PEETE, sworn for defendant, deposes and says:—

Direct examination by Judge BECKWITH:

Q. What is your age and occupation Mr. Pete.

A. I am twenty-nine years of age; I am an attorney-at-law.

Q. Did you make an examination and extract from the records of the city hall of the compilation marked Defendant's Offer No. 8.

A. I did sir.

Q. Did you at that time, or subsequent to that time make an examination of the promulgated ordinances of the city of New Orleans to ascertain whether the ordinance in that compilation contained, which have been passed over the mayor's veto, was ever promulgated?

A. I did sir.

Q. Did you make the affidavit I now hand you?

A. That is not the one, sir.

Q. What?

A. That is not it (counsel hands witness another document). Yes, I made that affidavit.

Q. Was it made immediately after you had completed your examination?

A. Yes sir.

Q. Are the matters stated in that affidavit true, to the best of your knowledge?

A. They are true, sir.

Q. In what series; or what papers—official papers and records, official newspapers, did you examine to arrive at the fact of the non-promulgation of the ordinance—vetoed ordinance.

A. I examined several papers, sir, entitled at that time the New Orleans Republican and Commercial Bulletin; moreover I examined every paper which was made an official journal either by act of the legislature or ordinance of the board of aldermen, and assistant aldermen at that time.

Q. Did you check down through the ordinances, during the period stated in that affidavit—from the sale of the water
1230 works by the Commercial bank to the city of New Orleans, and this subsequent sale to the New Orleans Water Works Company?

A. I did sir, serially.

Q. Did you find any missing numbers?

A. None sir; they are serial numbers, sir.

Q. Did you find the ordinances to respond to the file number, the serial number?

A. They were all in plain numbers, sir; from one up to the final number, I don't know what that was.

Q. That is, you found during that period, no break?

A. No sir, no break.

The document referred to is offered, introduced and asked to be filed in evidence by defendant's counsel, marked "Peete No. 1."

Objected to on the ground that the witness being present in court, he can be examined as to every material fact which the affidavit may state.

Q. Looking at this then, as a statement, and not as an affidavit; is it a true statement of the facts as you found them, and as stated in that paper?

Objected to as not the proper way to examine a witness.

By the COURT: The witness being here present for cross-examination, I really can see no objection to the document offered.

Plaintiff's counsel then objection on the ground that it is not the best evidence of many of the facts stated therein.

By the COURT: It strikes me that in so far as this statement refers to certain proceedings, there can be no objection, if it is treated merely as a reference to the rolls from which the information is derived and not any conclusion of law or of fact therein stated, there can be no objection to it. As I understand it they wish to
1231 prove that, from the examination of certain documents which are recited there—from certain sources—there has been no promulgation of that ordinance.

Mr. BECKWITH says: Yes.

By the COURT: With that restriction there can be no objection.

Mr. Forman says, with that restriction he has no objection.

1232 Civil District Court, Division "E."

STATE OF LOUISIANA
vs.
N. O. WATER WORKS COMPANY. } No. —.

Testimony for defendant in the above numbered and entitled cause, taken in open court on the 16th day of January, 1900, before the Honorable George H. Theard, judge.

Present: Messrs. B. R. Forman, for plaintiff, and J. J. McLoughlin, for City of New Orleans. Messrs. J. R. Beckwith; Farrar, Jonas & Kruttschnitt, and E. Howard McCaleb, for defendant.

Mr. L. H. GARDNER, sworn on behalf of defendant, deposes and says:

Direct examination.

By Mr. BECKWITH;

Q. I think, Mr. Gardner, that while you were on the stand before you stated your connection with the defendant company, and how long it had continued, and what its character had been, did you not?

A. Yes sir.

Q. You still hold the position of superintendent?

A. I do.

Q. You first was connected with the company as secretary & treasurer, were you not?

A. I was.

Q. What were your duties as such?

A. Keeping the records of the company, and the accounts.

1233 Q. Will you look at Defendant's Offer No. 6—Hatch or Bragg tariff—and state whether you found that among the papers or records turned over to you by Mr. Bonneval, or your predecessor in the administration?

A. I so found it.

Q. Were there any other tariff rate- for water-consumers that you were able to find at that time?

A. None.

Q. Were there any—did you make a search for it, and do you think you would have found it if there had been any in existence there?

A. If it had been in existence in the office, it would have come under my attention.

Q. So that was the tariff rate upon which the works were being carried on, and the consumers assessed, at the time?

A. It was.

Q. Did you have anything to do with the assessment, or the revision of assessments to consumers at that sime?

A. To a very large extent I did.

Q. Will you state whether they were—will you state how the inspection was carried on—by whom first,—the house inspection, I mean?

A. As I found it?

Q. Yes: and as you conducted it.

A. As I conducted it? We had blanks to be filled by the inspectors. These inspectors visited the premises and accurately observed the number of rooms, the number of faucets or openings, and facilities for obtaining water—noted these things on the inspection blanks, and returned them to the office; and that was the basis upon which the assessment was made.

Q. That furnished the data for the assessment?

A. Yes sir; that furnished the data.

1234 Q. Now, in the cases named in that tariff where there is a discretionary arrangement, or an assessible estimate to be made, how was that done—what was taken into consideration in assessing the premises?

A. The probable quantity of water used, as far as could be ascertained by observation.

Q. Were there other conditions—the condition of the fittings, and the character of the people using the water?

A. Yes, yes, there were a great many such consideration- entered into the matter—the character of the premises, the people who occupied the premises, the number of people who occupied them, the alternative quantity of water they might have, and the general conditions of the surroundings—quite numerous in their character.

Q. By the character of the people, you mean the manner in which they would use the water—whether they would waste it or not?

A. Yes sir.

Q. In making the assessments against water-consumers that were, any of them, within the part of the tariff where there was a discretionary assessment, and where they were assessed differently, upon what basis did you act in making those assessments, the same you named?

A. Those I have named.

By Mr. FORMAN: You are leading your witness.

By Mr. BECKWITH:

Q. What, if anything, was taken into consideration as to the supply they had in rain water or cisterns?

A. There was a consideration given to that effect, also to
1235 the fact of the size of the fountain, also the question as to the family occupying the premises the whole year. A large number of them might be absent from the city for a number of months. Those considerations also entered into it, besides those mentioned.

Q. Now, as to bar-rooms and that class of consumers—are they in the list—what considerations were taken up in estimating their rates?

A. As a rule they took the previous assessment—as a rule, I took the previous assessment, unless observation and examination showed that there was a marked error in the matter of their assessment.

Q. Did you find many cases where openings and discharges for water on the premises had not been taken into consideration?

A. Quite a number.

Q. Do you remember what pressure was carried on the mains at the time you first went into the employ of the company?

A. Forty feet, and less.

Q. Has that pressure been advanced? And, if you remember, state about how it has been advanced?

A. It was advanced from forty to fifty feet; subsequently to sixty feet or sixty-five feet. In September of 1894, if I remember correctly, it was advanced to seventy-five feet, and, in the latter part of October 1894, it was again advanced to eighty-five feet, which pressure has been maintained day and night as a minimum ever since.

Q. Do you remember when the extension of the six-inch main up St. Charles avenue was made, after you went into the employ of the company—the extension from First street?

A. To First?

1236 Q. From about First street, or wherever it was—the upper end of that six-inch main?

A. No; I can't recall the date.

Q. Well, can you approximate it—about when it was? Went up to the Orphans' Home, or up in that direction.

By Mr. FORMAN:

Q. Don't your annual report give the date?
A. I think it would.
Q. I saw repeated reference to it.
A. Yes.

By Mr. BECKWITH:

Q. Do you remember whether it was before, or after, the exposition in 1884?
A. I think it was after the exposition. At the same time, I would rather be exact. If you will hand me the annual report, I can tell you. (Witness is handed the report.)
A. In the year 1884 there were some five thousand feet of 8 (?) inch pipe laid on St. Charles, from Sixth street to Napoleon avenue—that was October, 1886. I am reading from the annual report of 1887.
Q. When was the extension carried up to Henry Clay avenue—that far up?
A. That was in 1890. That was a six-inch main laid in December, from Peters avenue to Calhoun street.
Q. Was that under the ten per cent. clause, under the charter, or by subscription?
A. Yes sir.
Q. Were there any reinforcing mains up there at that time?
A. No.
Q. To reinforce that main by an arterial service, to feed it at intervals, the prolongation would have been much increased,
1237 would it not?
A. Yes sir.
Q. There was subsequently an extension of an arterial or larger main up that street, was there not?
A. Yes sir.
Q. Do you remember about what time that pipe was carried up to and beyond Audubon place, and up to Carrollton?
A. It was—the water was turned on this large reinforcing main to which you refer—the water was turned on in the month of October, 1895—to Carrollton.
Q. Have you a memorandum showing the exact date of it?
A. I think I have—12th day of October, 1895.
Q. Do you know anything of a controversy or correspondence with Mr. Favrot relative to an insufficient supply at Henry Clay avenue?
A. I do.
Q. Have you the correspondence?
A. I have. (Witness hands documents to counsel.)

The correspondence referred to is submitted by Mr. Beckwith to Mr. Forman, who states that he has no objection to its being offered in evidence by counsel for defendant.

Q. These are the originals, or copies?
A. Three of them are copies.
Q. Where from?
A. From Mr. Favrot's—what I take to be Mr. Favrot's letter book.
Q. How did you obtain them?
A. They were filed here in court by Mr. Forman.
Q. These are copies of the ones filed?
A. Yes sir.

Q. Which ones were copied from——

1238 A. The three typewritten ones.

Q. Were they copied from the originals here on file?
A. Yes sir.
Q. Will you state, so that the stenographer can take it down, the dates of those letters, and who they are from?
A. The one I hold in my hand is dated 23rd of October, 1894; the others are dated a day or two—two or three days later.

Counsel for defendant offers, introduces, and asks to be filed in evidence, the letter produced by the witness, signed by H. L. Favrot, of the date of October 2, 1894, and marked "Gardner A."

Q. The letter you hold in your hand, and the others copied from the record, constitute the correspondence on the subject? Now, what do you remember about it—can you tell us what you recollect about it?
A. Mr. Favrot complained of lack of pressure at his residence. An examination was made of the surroundings to see, if possible——

By Mr. FORMAN:

Q. Did you make the examination yourself?
A. No:—only through the employees of the company.

Counsel for plaintiff objects to any testimony of what they reported, as being hearsay.

By Mr. BECKWITH:

Q. The matter was reported to you, was it?
A. It was.
Q. Did you have any interviews with Mr. Favrot himself?
A. I had none.

Q. Well, upon this report being made to you, of lack of

1239 pressure there, what did you do?

A. Instituted an examination there by the employees of the company to see, if possible, what reasons existed for this lack of pressure. The pipes were examined, to see if there were any obstructions; the main stop-cocks in the street were examined, without developing any cause; leaving it as a cause due, obviously, to the reckless, indiscriminate and wholesale throwing open of fire-hydrants, thus reducing the pressure.
Q. Did you take any steps to obviate it, by increasing the pressure, or in any other way?

A. The pressure was increased ten feet, without materially altering the situation.

Q. How did the Favrot place, or residence, take its water—direct from the St. Charles Street six-inch main, or from a branch?

A. From a branch from St. Charles street—a six-inch pipe on Henry Clay avenue fed by the six-inch pipe on St. Charles street.

Q. About how far up is Henry Clay avenue, with reference to Audubon park?

A. I am unable to say; I am not familiar enough with that part of the city to say, although I have lived here all my life.

Q. Was that six-inch main at that point then the limit of the old city distribution?

A. No.

Q. Do you know what steps were taken, if any were taken, to return the money to Mr. Favrot?

A. A check was sent to Mr. Favrot to cover the unexpired time for which he had paid for the water supply.

Q. Was it accepted?

A. It was not; he returned it.

Q. Do you know whether, during the time of the com-
1240 plaint by Mr. Favrot,—you know whether the pressure on the stand-pipe was maintained?

A. It was.

Q. Do you remember the time known as the Schwartz fire—corner Canal and Bourbon streets?

A. I remember having seen the ruins of the fire the day after its occurrence. I don't think I was present at the fire.

Q. Do you remember whether that building had a water elevator in it, or not?

A. It had.

Q. You remember the service in that building?

A. There was a four-inch supply pipe going in—the riser was four inches in diameter.

Q. Did you see it the next morning after the fire—the ruins?

A. I did.

Q. Was that four-inch pipe still intact?

A. It was, to the distance of some—well, I should say, twenty feet or more above the ground.

Q. Were you able to cut it off from the main?

A. The company was unable to cut it off, because the hot debris covered the stop-cock which governed the supply, and we had to wait until the debris was cold enough to enable the men to do it. In the meantime, water spouted up in that pipe.

Q. There was a four-inch delivery for about how long before the debris got cool?

A. Some three or four days.

Q. The pumps at the station, then, had to supply that four-inch discharge?

A. They had.

Q. Did you know of any inability to maintain the pressure during the period that that fountain was playing?

A. It was maintained that long.

1241 Q. You know of any trouble at that time with any of the wells on Canal street, or in the vicinity?

A. I know of none.

Q. Was any reported to you?

A. Not that I remember.

Q. Will you state what steps are taken by the company to keep advised of any faulty condition of fire-hydrants, or fire-wells?

A. In addition to the duties performed by what we call spannermen or roundsmen, from day to day—in addition to these duties, and in addition to such reports as they may bring in about damages to fire-wells or fire-hydrants, there is a monthly inspection made by our inspectors, and each one of these inspectors is accompanied by a member of the fire department, and their joint report monthly is made; and in case of any damage existing to any plug or well, immediate attention is given to the repair.

Q. Will you please look at Defendant's Exhibit No. 20, and state whether that is a compilation of the reports that you speak of, made jointly by the firemen and your spannermen?

A. I recognize this as the reports from them.

Q. Did you look at the records of the company for other than those compiled in that offer No. 20?

A. I did: and these were all that we found.

Q. How far back does that kind of inspection go?

A. I can't accurately say when it was begun; it was some six or eight years ago, I am quite sure.

Q. Well, in case that the report contained any indication of any fire-hydrant or fire-well being out of order, what was done?

A. Immediate attention and repair was given and made.

Q. Does your position give you a knowledge of the unauthorized opening of plugs, and, if so, how does this knowledge come to you?

A. It comes to me through our inspectors and roundsmen.

1242 Q. To what extent have you known illegally opened plugs to be drawing on the mains at any time—say in a drought, or otherwise?

A. Well, over two hundred a day have been closed by men especially employed for that purpose;—unauthorized opening of plugs, I am speaking of now.

Q. Now, in case of drought, has the company ever refused to open plugs for the supply of the neighborhoods in the vicinity of the plugs with water?

A. Never have.

Q. Will you state how that plug, when opened by the company, is opened, and to what extent of flow?

A. It is opened by our employees to such an extent as to allow those who desire to gather water to get it conveniently and abundantly,—that is, what I mean is that it is not opened full, so as to throw the water across the street; that would afford no facility; but opened in such a way as to afford facilities for gathering the water.

Q. When so opened, in that way, are they allowed to run night and day?

A. No:—about four hours daily.

Q. During what hours, generally?

A. From seven to eleven.

Q. About how many plugs would, in a very dry time or drought, be opened to that extent at any one time?

A. For the relief of drought sufferers?

Q. Yes.

A. Well, they vary in number—as high as eighty or ninety a day, perhaps.

Q. Do you remember any controversy with Mr. Maginnis, or with the Maginnis soap works and the Maginnis mills—have you
1243 the correspondence here with you? It seems the copy taken has been left out of court and is not here.

A. I have several letters here to Maginnis Sons—at least these are copies of letter.

Q. Well, can you state to us when that controversy arose, and generally about it, what you remember—the controversy about the soap and oil mills?

A. I think it was in 1882—in 1882 Mr. Houston, then the superintendent of the water works company, under the advice of Mr. Golding, who was the advisory engineer, raised the rate of the oil and soap works to one thousand dollars per annum—raising it from three hundred dollars to one thousand, for the reason that the previous rate was out of all proportion to the amount of the water supply, and the manifest error in the assessment should be corrected. This rate of one thousand dollars per annum was subsequently compromised at six hundred dollars per annum, and this rate of six hundred dollars was paid until the soap works were shut down—say about 1890.

Q. Did you yourself make an inspection of the premises?

A. Only in a cursory manner.

Q. Do you remember any of the details of the conditions which led to the increase of the assessment on that building?

A. Well, part of it I remember was due to the fact that the water was being supplied to a stable adjoining the mills building, which stable had not been assessed for several years—a pipe running out from the main building into the stable.

Q. Do you remember whether he kept and fed any cows there?

A. I do not.

Q. Do you remember whether there had been a change
1244 in the steam capacity there?

A. I do not.

Q. Now I call your attention to the Maginnis cotton mills; what do you remember of that controversy?

A. In 1888 or 1889 the mills were greatly enlarged—the cotton mills were greatly enlarged, and my attention was called to it. I visited the mills and found that the machinery that was going in required—although I am not a mechanical engineer, by any means, it was obvious a large increase of water was necessary for steam for this increased plant. My attention also was called to a very large

flow of water through the gutters adjacent, a condition which had not existed before. I ordered a measurement of this water—the overflow alone—to be made, reported the result, and was authorized to assess the Maginnis cotton mills seventy-five hundred dollars a year.

By Mr. FORMAN:

Q. Authorized by whom?

A. The president, as nearly as I remember, and it was subsequently a matter of the board of directors ratifying it.

By Mr. BECKWITH:

Q. Do you remember about what the flow through that building was estimated at?

A. Not accurately, but certainly not less than two hundred and fifty thousand gallons a day.

Q. Was the water turned on that building originally without paying in advance, or was it being exacted in advance at that time?

A. I don't remember Mr. Maginnis paying anything in advance on any bills.

Q. Well, that led to a dispute and correspondence?

A. It did.

Q. Do you remember what efforts, if any, were made to ad-
1245 just it, and get him to pay the bill or agree to some settlement?

A. He was—it was proposed to him to arbitrate the matter; he refused. It was then proposed to him to put a meter at the joint expense of the water works company and himself; and he refused that.

Q. That then led to a compromise of fifty-five hundred?

A. It did.

Q. Now, did he still keep on taking the water after he had sunk his wells?

A. To a certain extent, he did.

Q. Did a controversy arise about that supply?

A. Yes; inasmuch as he had sunk those wells which, he said, would afford a sufficient supply for his purposes, the supply or mains would have been subject to the amount; and the supply from our mains would have been very difficult to determine; and, in order to protect the company, the company placed a meter at its own expense—which meter is still in existence—recording the amount of water used by the Maginnis cotton mills.

Q. Do you remember the size of the meter?

A. Six-inch.

Q. Do you remember about the expense of it to the company?

A. Seven hundred and eighty dollars, or thereabouts.

Q. Do you remember any trouble occurring in that locality to other institutions from his drawing water from the mains prior to the installation of his wells?

A. The New Orleans Ice Company was in the immediate vicinity,

and they complained that the use by the Maginnis mills, after the enlargement of the mills—the use of the water by them through a certain pipe on Poeyfarre street, took all the water from the ice company—so much so that they could get no supply.

Q. Well, what was done then to relieve that Poeyfarre main?

1246 A. The pipe was cut off in order to allow the ice company to enjoy the benefit of the pipes.

Q. What provision had been made to supply the mills through another well?

A. At the request of Mr. Maginnis a special main was laid, eight inches in diameter, to the Calliope Street main of sixteen inches in diameter.

Q. Laid to the mill?

A. Laid to the mill.

Q. I saw by the correspondence a proposal signed by you to lay the service main from Calliope to the mill for one hundred dollars; was that accepted?

A. I don't remember the amount. It was accepted; and he paid for the laying of that pipe—that larger one.

Q. How far did the eight-inch pipe extend from the Calliope Street main?

A. Up to the building line; and then continued by the sixteen-inch main.

Q. To the park?

A. No: just inside of the gateway on Constance street, which is about half a square.

Q. After the meter was put in and had begun the registry of the water, do you remember whether the supply taken was considerable, or small?

A. It varied largely.

Q. Have you any memorandum showing the amount taken after the meter was installed?

A. I have.

Q. Is that paper you hold in your hand the statement of the supply to the mill?

A. It is:—through the meter.

1247 Counsel for defendant offers, introduces, and asks to be filed in evidence, in connection with the testimony of the witness, the document marked "Gardner B."

Q. Is the amount footed on the Exhibits A and B?

A. It is footed.

Q. What is the total?

A. Three thousand, eight hundred and sixty-eight $\frac{67}{100}$ ($3,868.67) dollars.

Q. At what rate?

A. At the rate of fifteen cents per thousand gallons.

Cross-examination.

By Mr. FORMAN:

Q. Mr. Gardner, will you look at this book and state whether it is your reports to the board of directors as superintendent?

A. It is.

Counsel for plaintiff offers, introduces, and asks to be filed in evidence, the following reports contained in said book:

Report of	October 6th 1890,	page 11.
"	" November 5th, 1890	" 13.
"	" August 5th, 1891,	"(1)35.
"	" January 6th, 1892,	" 39.
"	"	" 49.
"	" March 7th, 1894,	" 59.
"	" July 5th, 1894,	" 65.
"	" October 3rd, 1894,	" 72.
"	" November 7th, 1892 (?)	" 75.
"	" March 6th, 1895,	" 87.

1248 Also report of October 26th, 1895, to the president, embodied and repeated in the report of November 6th 1895 to the board, and found at pages 98 and 99.

Also report of July 1st 1896, at page 109; January 6th 1897, at page 115; February 3rd, 1897, at page 117.

Q. Mr. Gardner, have you anywhere in your records, or in the records of the city of New Orleans, any written entry showing that what you call the printed paper—the Hatch tariff contained in Defendant's Offer No. 6, was ever adopted by the city council?

A. I don't think so. The only evidence I have of it is at the foot there of——

Q. In other words, when you came into the office of secretary, in 1892, you found this printed tariff in the office?

A. Yes; and also from my predecessors understood that that had been their——

Q. Mr. Gardner, you don't mean to say, do you, that that printed tariff, containing the printed name of F. H. Hatch at the bottom of it, has ever been strictly followed by you in the assessment of water rates?

A. I say emphatically that it has not. The assessments have invariably been within that; they never exceeded the tariff, but have almost invariably been within that tariff; and that tariff has been the guide ever since I have been with the company.

Q. The guide somewhat as a water *gu*age is the guide of pressure, I suppose; is not that about it?

A. No answer.

Q. In the actual, practical working, I am talking about.

A. I do not propose to say it is not.

1249 Q. Mr. Gardner have you any record—referring to Defendant's Exhibit 13, being a printed pamphlet of charges, rules and regulations and city ordinances governing water supply

or rates—have you any record that the board of directors of the New Orleans Water Works Company at any other time adopted any tariff of water rates before this dated February 23rd, 1898?

A. I have not.

Q. Have you any knowledge of hydraulic engineering?

A. None whatever.

Q. Your business in life, before entering the service of the water works company was wholesale dry-goods merchant?

A. Cotton factor.

Q. I thought you were, at one time, in the wholesale dry-goods trade?

A. I was; but previous to that time. I was subsequently a cotton factor.

Q. You can't then, I suppose, give us any figures as to the fractional loss of pressure?

A. No, I could not. I could not answer any questions on that subject.

Q. Have you the contract which you made with the Consumers' Ice Company—I don't know that it is that company,—the one next to the Maginnis mills. What is the name of that company?

A. I think that was the Consumers'.

Q. I mean the one next to the Maginnis mills—between the Maginnis mills and the Leeds foundry.

A. That is the New Orleans Ice Company.

Q. Have you a copy of the contract which you made with them?

A. I presume it is in the office.

Q. I will thank you to produce it. How did you get the
1250 quantity of water they consumed—did they have a meter?

A. I think at one time they had a meter, but I am not positive of that; I think so, though.

Q. Do you know how long they had a meter?

A. I couldn't say, without refreshing my memory from the books; I couldn't tell.

Q. Have you got the books here by which you might refresh your memory?

A. I really don't know if our old meter book is here or not. (Witness is handed book.) The record on the meter book I hold in my hand would indicate the use of that meter ceased in—say October 1893, or at the close of September, 1893.

Q. And commenced when?

A. The first entry on this meter book of record is April 2nd, 1893.

Q. What rate per thousand gallons did they pay?

A. It is not recorded here; the rate is not here.

Q. Have you any book, or memorandum, to show what the rate was per thousand gallons?

A. Not here.

Q. Have you anywhere?

A. Maybe at the office.

Q. Does it show what the consumption of gallons per month was?

A. Yes.

Q. Read it off, please.

A. In the month of April, 1,596,450; May, 632,925; June, 735,300; July, 581,850; August, 589,951; September, 232,350.

Q. The cubic feet were all at the rate of seven and a half?

A. I presume so.

Q. The cubic feet, for the same period then, were——

A. Cubic feet: April, 1893, 212,860; May, 84,390; June,
1251 98,040; July, 77,580; August, 78,660; September, 30,980.

Q. Now, sir, I will have to ask you to give us a view of the contract you made for a flat rate after that. Mr. Gardner, you never did have any one arrested for stealing water, did you?

A. I don't recall a single instance.

Q. As a matter of fact, were not the instructions of the governing officers of the company, superior to yourself, that no arrests should be made?

A. It was.

Q. Never arrested any one for the unauthorized opening of hydrants?

A. I recall no instance.

Q. There were like instructions with regard to that?

A. Yes sir.

Q. In the question of the complaint of Mr. Favrot as to a deficiency of pressure, as a matter of fact did you observe any extensive opening of hydrants in that part of town—public hydrants?

A. There were none in the immediate vicinity that were reported to me, but there were below, and it affected the pressure at his place, of course.

Q. That pipe was something like in the neighborhood of four miles from the pump, was it not, at that point?

A. I should say so.

Q. How far down did that six-inch pipe go before it came into a larger one?

A. Peters avenue, I think.

Q. No further down than that?

A. It may: I don't——

Q. Did it not go to Napoleon avenue?

A. Possibly, but I can't recall it.

Q. And then below that, what was the size?

A. It is an eight,—part of the way down.

1252 Q. How far does the eight-inch pipe go down?

A. That, I can't tell you. I don't carry the general distribution in my memory—consult it in the office when the occasion requires, and have no necessity for carrying it in the memory.

Q. You did not, on the occasion of the complaint by Mr. Favrot, make a personal investigation of the pipe, did you?

A. Only through the employees of the company.

Q. Assuming the statement of a number of witnesses here is correct, that there is always in that part of town a number of instances, at least, of deficiency in the pressure from ten to three o'clock—do you know of any cause in the operation or distribution of the water works that would produce it?

A. There is no complaint, unless it be under the circumstances that are alluded to—during a time of drought, when a large number of fire-hydrants are thrown open.

Q. Without reference to whether the people make complaints or not, suppose it does exist?

A. We would hardly know, unless they did make a complaint.

Q. Assuming, for the sake of the question, that such a condition of affairs existed—for instance, I don't want to testify, but at my house there is a deficiency during those hours, and Mr. Favrot says the same—now what is the cause?

A. I can't give an opinion, except as I stated before I have heard no complaint except during the conditions I described, and can't give any other reason for it than those I have given—throwing open of fire-plugs.

Q. The property-owner always pays for the service pipe, and the cost of making the connections?

A. Yes sir.

Q. And it is an almost uniform rule that he pays for the
1253 meter, where one is in use?

A. Yes sir.

By Mr. BECKWITH:

Q. Will you state what the reason has been that those who have been stealing water have had immunity from prosecution—what motive governed the company in that?

A. It was deemed not politic to make arrests, but rather to go to the extra expense of endeavoring to keep those plugs closed. The general public might have deemed it—probably would have deemed it—an act of oppression of the part of the water works company to make arrests; and it was deemed better policy to endeavor to keep them closed—have men employed to follow up those men who opened them, and endeavor to keep them closed.

Q. Will you please, Mr. Gardner, look at the minutes of the board of directors during the administration of Mr. Toby, and down after you began, and see if there was not some action of the board—both in Mr. Toby's time, and afterwards—in the matter of the water tariff?

A. Witness examines book, and states:—At a meeting held April 23rd, 1879, I find this extract, which was an extract from the minutes, and is portion of Mr. Toby's report to a special meeting of the board: "And the tariff of rates now established is both just and equitable, and should be maintained and not departed from except under the most urgent circumstances." I read now from an extract of the minutes of the board of directors of July 3rd, 1883: "A discussion of the policy of modification of, or deviation from, the tariff of rates was concluded by referring the matter to the finance committee for decision." And now read the report of the finance committee, held July 4th, 1883: "After a discussion of the
1254 existing tariff of rates, it was decided to continue the same in force, but the secretary was instructed to exercise his own

discretion and judgment to the extent of accepting two dollars per annum less than the tariff on yearly family bills, and proportionately lower prices on short-time bills,—all under special circumstances."

Q. Well, was there any other tariff tabulated there in the books or in the records, at the time the Toby meeting of the board of directors was held,—other than this Hatch tariff?

A. None.

Q. Was there anything in the office anywhere to indicate any other tariff?

A. None.

Q. Was that tariff operative when the matter was referred, in 1883, to the finance committee?

A. Must have been, for there was no other tariff in existence that I know of, and I certainly would have known it had there been.

At this point, witness is withdrawn, on the request of Mr. Kruttschnitt of counsel for defendant, and the right reserved to recall him on the following day of the trial.

Mr. D. S. GASTER, sworn on behalf of defendant, deposes and says:

Direct examination.

By Mr. BECKWITH:

Q. How long have you been chief of police of the city of New Orleans?

A. About nine years.

1255 Q. What has been your average number of patrolmen?

A. From one hundred and eighty-five to two hundred.

Q. Are they fairly well distributed through the city in the service?

A. Yes sir.

Q. How many would that leave on service for twelve hours, if they were relieved every twelve hours?

A. About eighty on day duty, and eighty on night duty; something like that.

Q. I call your attention to city ordinance No. 8107, administration series, a copy of which is in evidence here, and ask you to look it over.

A. I have glanced over it; I am familiar with the ordinance.

Q. Do your records show the reports provided for in this ordinance as to the opening of hydrants, and interference with the property of the water works company—have you ever made any to the company?

A. No sir; not that I know of. I told my secretary to look it up and see if we had any reports of that kind, and he said he could not find them.

Q. Do you remember whether they ever reported to you the open-

ing of hydrants or interference with the property of the company indicated and referred to in this ordinance?

A. Yes sir.

Q. What did you do with the reports?

A. Called the attention of the police to that district where the complaint came from.

Q. You made it known to the company, though?

A. No; I think that the complaints I had came from Mr. Gardner, the superintendent of the company.

1256 Q. He notified you that there had been such wrongs; but I am asking if you ever notified him of it, or the company, at any time.

A. I may have done so.

Q. You remember when?

A. I couldn't say. I know it is my duty, if I find a pipe broken, to notify the company, or——

Q. I refer to the opening of hydrants and the wasting of water.

A. I may have reported that to them, but I don't recollect any particular case. I will do so if it is called to my attention, I know.

By Mr. KRUTTSCHNITT:

Q. Mr. Gaster, have you detailed any police officers in connection with this case?

A. Yes sir.

Q. For what purposes?

A. To the city attorney's office, for duty.

Q. You don't know for what purpose?

A. Attend to the water-works case, I heard.

Q. Will you give us the names?

A. Exnicious and Rhodes.

Q. How long were they on that service?

A. They have been, I think, since the first of September; been relieved several times.

Q. But off and on, since the first of September?

A. Yes sir.

Q. By whom were they relieved?

A. I relieved them myself during the holidays, after seeing the city attorney who told me I could, though; and afterwards he told me to send them back there.

Q. No one else were assigned to their duties when they were relieved?

A. No sir.

Q. They are the only two that were assigned?

A. I think so.

1257 Q. Will you give us the first names of those officers, if you please?

A. I can't think now, of the initials. I can send them to you.

Q. Will you please mail them to my office?

A. Yes sir.

By Mr. McCaleb:

Q. Are those officers on duty now, in connection with this case?
A. Yes sir:—Rhodes is.

No cross-examination.

1258 Counsel for defendant, The New Orleans Water Works Company, offer, introduce and ask to be filed in evidence; Act No. seven extra session of 1870. And act No. 6 of the acts of 1868.

All the acts of the General Assembly and all amendments thereafter passed and adopted, between the 1st day of January A. D. 1851 and the 1st day of January A. D. 1891; conferring corporate, municipal powers upon the city of New Orleans and the people thereof, as the same were published in the authorized publications of the acts of the General Assembly.

Counsel for plaintiff object, on the ground that only private statutes have need to be offered in evidence, and that the number and date of the passage of the acts should be given.

Mr. Beckwith says;—That the charter that was in existence at the time the city acquired the water works from the Commercial bank was in existence at the time the water works were sold and is the charter known as the charter of 1852, which charter was amended and changed at various times and went out by repeal in 1870, upon the establishment of the system.

That it consists of a large number of acts and all relate to the charter and the modifications of it, and are necessary to show the departments of the government and its powers.

Plaintiff's counsel renews the objection that if the statutes are public statutes there is no necessity of offering them in evidence; that if they are private statutes plaintiff is entitled to know the number and date and page and year and that defendant ought not to be allowed to make an offer of all statutes; that may, or may not, do a certain thing for a period of twenty years.

1259 By the Court: I overrule the objection, inasmuch as it seems to me, as the statutes thought to be offered in evidence are public statutes which can be referred to without the necessity of a formal offer.

Defendant's counsel, offer, introduce and ask to be filed in evidence acts of the legislature in the charter of the defendant corporation, to wit; No. 23 of the extra session of the legislature of 1877, approved March 31st, 1877. No. 43 of 1878, approved February 26th, 1878 and No. 56 of the acts of 1884, approved July 7th, 1884.

The defendant will file a list of these offers, in which the statutes will be enumerated.

Mr. —— Dyer, recalled.

Direct examination by Judge Beckwith:

Q. Have you read the depositions of the witnesses, Mr. Cook, Mr. Wadsworth, Mr. Harrison and Mr. Allen, concerning the use of steam in the Maginnis soap and oil mills?

A. I have studied their testimony carefully.

Q. From the data they have given, are you able to determine the consumption of water in the various directions in which it is consumed by the engines, the clarifying of the oil and the soap manufacture, and by the boilers?

A. The data, obtained from that testimony, is very, very unsatisfactory on which to base calculations of water consumption.

But I find, from a careful study of Mr. Cook's testimony in relation to the boiler plant, that there were about 480-horse-power boilers in service. That was a new boiler, I judge, put in to replace others that had worn out.

From testimony of Mr. Wadsworth, the engineer of the plant, I learn the steam pressure carried was from 85 to 100 pounds but that above 85 pounds pressure the engine took no steam, or as he said the crab claws refused to act. The inference would be
1260 from this that 85 pounds was the normal working pressure.

There is no information whatever in regard to the preliminary heating of the boiler feed water, therefore I assume that a calculation of a temperature of sixty degrees Fahrenheit would approximate the temperature of that water in the inter-season when a greater amount of work was done in the oil mill. Based on these calculations the hourly calculations per commercial horse-power would equal 28.27 pounds of water for 480-horse power, which would then equal 13,857.06—or expressed in gallons, in even figures would be 1665 gallons—this, for ten hours would give 16,650, or for 24 hours, which was probably the running time of the mill—oil mill—in the season, would give 39,974 gallons. I have also figured it for a month's run. Twenty-five days of ten hours each, making 416,400 gallons; and also twenty-five days of 24 hours each, a month's run—total 999,360.

Q. Per day?

A. That is twenty-five days of twenty-four hours each.

Now, in relation to the engine, I learn from the testimony that the engine was a Corliss, non-condensing simple-cylinder diameter of 20 inches, stroke 24 inches: number of revolutions is not mentioned, but the average revolution of that type of engine, figuring on the usual piston speed, wouldn't be much over 76, and not under 72, and I have taken 74 for the calculation.

The testimony states there was 85 pounds pressure, normal working pressure, the cut-off of that engine I have taken at ¼ that is the builders' usual position of cut-off for economical running, with this data we have a figured horse-power of 144, the water consumption of this engine could not have been less than a thirty-pound rate, that being the very best obtainable rate with that type of engine, more probably it would run to 36 or 38, but I have taken thirty as being the very best obtainable; that would give a result of 447
1261 gallons per hour; or for ten hours 4470, or for twenty-four hours 10,728 gallons—that is the water consumption of the engine.

Q. Having been perfectly familiar with the use of steam heat on

fluids, by either the coil system or by the perforated-pipe system, where the steam goes directly into the fluid to be heated, do you know whether the consumption of steam called for in that method of heating is large, or small?

A. I am familiar with that manner of heating fluids in sugar-house work and refineries. With the close-coil pattern, or close-coil method of heating large quantities of fluids in tanks the condensed steam can be returned into the boiler and thereby saved, but with coils which are perforated with a large number of holes in each section of the coil; there is a tremendous waste of steam; something which could not be measured it would be simply a question of finding out whether you had enough boilers to furnish the steam or not, by an experimental heating of the plant.

Q. If it be true, as Mr. Harrison says, that the close coil ran the steam and water through a half-inch pipe that run into the gutter that would indicate that they were taking the condensed water back from the close coil?

A. No sir, that would indicate an awful waste of steam; one that could hardly be expected at this time, under the present practice of steam consumption. We have accounted for, by the steam-engine only in this plant, some 124-horse dower, but we have 480-horse power of boilers, and that difference of 356-horse power; so far as the testimony goes to show, is used almose entirely in steam-heating, raising the temperature, boiling of oils, etc. a matter of 356 or 350 horse power.

1262 Q. Do you believe the boiler, in there, too large, as a source of steam supply for all the uses, heating 250 barrles of oil in tanks and the soap devices?

A. As a matter of opinion I don't think it would be any too large.

No cross-examination.

GEORGE G. EARL, recalled for defendant.

Direct examination by Judge BECKWITH:

Q. While you were on the stand earlier in this trial, you stated your profession, occupation and experience?

A. Yes sir.

Q. Have you made any study of the water-works system of distribution in the city of New Orleans?

A. I have made some study of the report of the State legislative investigating committee. Before that, I had made some study in designing two extensions, one extension uptown notably; and I have made some little study in connection with the present case.

Q. Will you look at the blue-print tabulation, marked Defendant's Offer # 23, and state if you made that tabulation?

A. Yes, that is a comparative tabulation of conditions in different cities; compiled from information obtainable in the manual of American water works made by myself.

Q. What is that paper?

A. That is a book published by the Engineering News; it compiles the history and condition and surroundings of every water works company that it can get any information in regard to, in the United States.

Q. Is it considered by hydraulic and hydrostatic engineers as a reliable work?

A. It is the most reliable work on the subject, yes sir. It is a very carefully compiled work.

Counsel for defendant, offers, introduces and asks to — filed
1263 in evidence document marked Defendant's Offer No. 23.

By Mr. FORMAN:

Q. Have you got a copy of it accessible?
A. I have a tracing of it.
Q. I mean of the book.
A. Not here, no sir; I have a copy in my office.
Q. Will you loan it to us and allow us to look at it.
A. Yes, certainly.

It is understand that plaintiff's counsel shall have the opportunity to look at this book from which this compilation is made and with that understanding offers no objection at the present time.

By Judge BECKWITH:

Q. I understand you to say, Mr. Earl, that you planned for the water works, extensions and reinforcements of its distribution; will you please state in what direction—in what part of the plant?

A. The principal work that I was called upon to do, was late in the fall of 1894; I was asked to make a study of the condition of the uptown delivery system for the reinforcement of that system, and did so designate then an extension which was, in my opinion, a proper part of the final full supply for the whole territory up there, which is now very sparsely populated, which seemed to me the best distribution line to lay at the present time.

Q. Will you describe that line, as devised?

A. That started with a thirty-inch line at the corner of Camp and Race streets, which connected with the water works company principal thirty-six-inch main at that point; it then extended upon *on* Chestnut and Coliseum streets and so on, until it reached the corner of State and St. Charles avenue; then out St. Charles avenue to Carrollton avenue—a twelve-inch main at that point—then gradually reducing a 30-inch line for about 2000 feet, a 24-inch line for about 5,000 feet, a 20-inch line for about 9000 feet, and twelve-
1264 inch line for about 7000 feet, and then it was subsequently extended—I don't think that extension was in my estimate, it might have been reported in my report as the proper extension, I don't know—with about 3000 feet of ten-inch on Carrollton avenue, running out to Poplar and Carrol*l*ton avenue.

Now, I have prepared here a sheet showing the carrying capacity and line of head by that carrying capacity in that extension. The

first figures are those which I have considered the correct ones for the final use of that pipe. The figures that I have would not be reached very soon. The second show what it could do at its ultimate capacity for fire protection and if the pipe was fully drawn on; to show, for instance that the thirty-inch pipe probably delivered seven million gallons, carry it to its end and reduce to six millions by the time it came to the 24-inch—I refer to a million gallons in twenty-four hours. Now this is the rate—that the 20-inch pipe may be carrying four million, that the 18-inch pipe may be carrying two and a half million, and that at the end of that 18-inch, with that carriage, that would be still starting with a ninety-foot pressure at Camp and Race streets, a 55-foot pressure at State and St. Charles avenue; that is giving a million gallons to the end at the end at St. Charles avenue, there would still be—I was mistaken in stating 55; I should have said 64-foot pressure at State and St. Charles; there would still be a fifty-five-foot pressure at Carrollton avenue and St. Charles avenue. Now then, considering the condition of pipe. Under present conditions domestic consumption does not anywhere require the quantity shown in that first tabulation. That is shown by the fact that a gauge put on a hydrant any time during the day will show pressure very much higher than the pressure which is shown in this first calculation at that point, of 64 feet.

1265 In fact they will show now 85 or 90 feet, showing that the domestic consumption is very light, so that the second tabulation which I give here would indicate a small domestic consumption and showing a large carrying capacity through, or it might be a slight carrying capacity through to the ends of the pipe line, showing we could start with three and a half million in the thirty-inch using lightly for domestic consumption all along as they do and end up at the end of the ten-inch on Poplar street and Carrollton avenue with a discharge into an open fire-well, or with a discharge of 1,800,000 gallons in twenty-four hours, still having to lift a head of eight feet, that is, about the maximum capacity.

Now the testimony in this case mentiones a time when Audubon place couldn't get a supply of water above fourteen feet—enough open hydrants could easily produce this result, on this, or any other particular pipe line. For instance, eight hydrants near State and St. Charles avenue would discharge say four thousand gallons per minute equal to a draft of 5,760,000 in twenty-four hours, that would reduce the effective pressure to about thirty feet at this point, that assuming no domestic consumption along the line; now the domestic consumption that is going on, together with the opening of one or two more hydrants through there, up beyond Audubon place, would produce the condition stated in the testimony. The opening of eight hydrants at any one point, might sound to be a very little thing, but it is as unusually different for any water works to meet as its equivalent, *i. e.* a demand for 16 good fire-wells for a single water main in the suburban part of the city.

Q. Did you have anything to do with the installation of the new downtown fire-main?

1266 A. No sir, except once, to report to Mr. Craig in one matter that he asked advice about.

Q. Do you know what extensions were made, at the same time, downtown?

A. I know in a general way yes, there were six or eight inch extensions made downtown.

Q. Have you any calculations or tables prepared, showing loss of head by friction, or capacity of mains, under given pressure to deliver water?

Counsel for defendant, offers; introduces and asks to be filed in evidence memorandum, compilation and statement of the witness, marked Earl A. 1.

A. I have here, compiled simply from the stand friction tables the losses of head due to friction in different sized pipes, carrying different quantities of water, from which all such calculations are made; this is a condensation from the original tables.

By Mr. FORMAN:

Q. Compiled from what tables?

A. Weston's friction tables.

Counsel for plaintiff ask for the original.

By Judge BECKWITH:

Q. Are the tables you refer to those consulted by engineers in designing and erecting water-distribution plants?

A. Yes sir, they are. This same table contains also a little tabulation of the discharge from the open butts of 2½-inch hydrants, under various pressures at the point of discharge, given in gallons per minute; and it also contains a calculation by myself of the equivalents in feet and pounds.

Q. That is a scale showing the column of water that is the equivalent of the foot lift of a pressure?

A. Yes sir.

1267 Counsel for defendant, offer, introduce and ask to be filed in evidence, in connection with the deposition of the witness, document marked "Earl B. 2."

Counsel for plaintiff object to the offer, unless the scientific book, or books, or authority from which it is compiled is produced?

A. This is the book from which it is taken (witness produces book). Any book of friction tables would give about the same thing.

Counsel for plaintiff state that they desire either an opportunity to offer the book, or to procure one and introduce it in evidence.

By Judge BECKWITH:

Q. Have you considered the ration of increased delivery from the water works, whether coming in the increased height of water in the stand-pipe, or pressure at the source of distribution?

A. No, in regard to that matter the delivery capacity of any given pipe or system of pipes or any opening from which water flows, varies as the square root of the head of water going through the pipe or system of pipes opened. As say, for instance, if the old reservoir head, as my levels indicate it was, is 25 feet above the ground at the pumping station, from which the present memorandum of heads were taken, and if it would deliver five gallons in a certain case (which is the square root of 25) why the night pressure, carried years ago at the water works of 50 feet would deliver a little over seven gallons; the day pressure, which was carried at the same time of 60 feet, would deliver the square root of sixty, a little less than eight gallons. The pressure which has been almost uniformly carried subsequently—that is of late years, of 85 would deliver about 9.7 gallons; on the pressure of 95 which was maintained, as I understand, during the late drouth it would deliver about 9.7 gallons. Now, in addition to that added delivery capacity, due to the pressure, of course there is a change in the
1268 delivery capacity due to increased mains that is increased size of mains to allow pressure to be distributed without frictional losses, so that the ultimate discharging capacity now, of the system, at any given point, would perhaps be, roughly, I guess, quadruple over what it would have been under the 25-foot head in the old reservoir and pipe system, as I understand it to have been.

Q. Have you investigated or considered the question of the capacity of mains under given pressure to deliver water through a two and a half inch nozzle or butt end, for the supply of fire-engines, and what draft would be necessary to exhaust the flow?

A. No sir, I have not; the only thing of that kind is the tables of discharges through that hydrant under given pressure, open butt.

Q. It is contained in that table that has been offered in evidence?

A. That is the only thing I have as to the discharge of hydrants.

By Mr. FORMAN:

Q. In this book of tables?

A. No sir, it is contained in the table of which I have said part was compiled from that work.

By Judge BECKWITH:

Q. Now for instance, take a head of thirty-five feet, or as many as you please, within the range of the head that has been carried on the works here, and take say one thousand feet of six-inch pipe with a pressure head delivery of fifty feet, how many fire-engines would it be sufficient to start—in designing plant sufficient to take the entire supply running through that pipe?

A. In the first place we must make some estimate as to the fire stream, the quantity of the fire stream. Now the very maximum fire stream that authorities consider is about 350 gallons per minute, and that for a few streams in the business part, or in the important part—covering the centre of the city. The same authority says

that the average stream in such localities would be, or should
1269 be, at least 250 gallons per minute and in the suburban districts somewhat less than 250 a minute would be the average stream. The authority who makes this statement is Freeman, who was employed as insurance expert in 1890 to make experiments in this connection. Now this table, in the column I have "number of fire streams based on 250 gallons" which, as he says is an average fire stream, and which is the highest fire stream that I find anywhere mentioned—now, a six-inch pipe carrying one such stream would lose head at the rate of 5.8 feet in each 1000 feet of its length; carrying two such fire streams it would lose head at the rate of 22.3 feet for each thousand feet of its length, so that in 2000 feet of length a six-inch pipe, under a forty-six-foot head would easily deliver two such fire streams into a well and at ground level. That illustrates the use of this table and of the table from which it is compiled.

Q. Well, have you tabulations of higher pressure than 46 feet, or lower, under the same conditions?

A. I don't understand the question.

Q. Have you compilations of higher pressure than forty-six, or lower, under the same conditions of water distribution?

A. This tabulation extends, for instance, for a six-inch pipe, from one fire stream to five fire streams, showing that at five streams it would get 140 of pressure discharge through 1000 feet of six-inch pipe, and in the same way goes through every size of pipe, and answers practically every question that can be answered as to discharge capacity of a single pipe.

Q. Was this tabulation made by you?

A. This tabulation is made by myself, but compiled, as I have said before from Weston's friction tables.

Q. It is a copy of the one that has been offered in evidence here.

A. It is the one that you have already offered in evidence. It also contains a tabulation of the equivalent of water columns per pound pressure.

1270 A. Yes sir, I have figured that.

Q. Do you know anything about the distribution on Dryades street, at the market, or in that vicinity?

A. You mean Dryades between Felicity and Calliope?

Q. Yes.

A. Yes, I made some little study of that, on the water works company's plant, some years ago.

Q. What conclusion did you arrive at, as to that distribution, as an adequate distribution for the extinguishment of ordinary fires in any local*acity*?

A. The distribution there is maintained by an eighteen-inch pipe on Felicity road and 16-inch pipe in Calliope street, with eight-inch pipes across from one of these to the other on Dryades, Baronne and Carondelet, and one or two other streets; that really being an ideal system for fire protection. There are on some of the cross-streets four-inch lines between each end, heavy drafts from fire-

wells might not have sufficient head to furnish a very large head of water, that is to say, for instance, three hundred gallons fire stream, something like that; although it is hard to conceive how, even a four-inch pipe in that neighborhood, within only a block from the eight-inch pipe, could fail to furnish the supply.

Q. Assuming the fire-well to have, say an eight-inch delivery—or two six-inch deliveries off from a thirty-inch main, to be opened for it to flow, what would be its effect upon the immediate pressure in the vicinity, taken the system of distribution between Poydras and Canal street, with the two large wells in front.

A. The effect of the opening of those fire-wells is to discharge either large quantities of warer under either condition; I
1271 have prepared here a diagram calculation showing the discharge of water with different heads acting on the supply pipe through six, eight and twelve inch pipe leading into the fire-wells of various lengths from ten to three hundred feet; showing, for instance that a six-inch pipe under a head of ten feet would discharge about sixteen hundred gallons a minute.

Q. A six-inch pipe under a head of ten feet from where?

A. Under a head of forty feet—ten feet long, it would discharge 3,300 gallons—this tabulation shows the condition and quantity of discharge and illustrates how the opening of such pipes fully, wide open valves, necessarily decreases the pressure in the neighborhood. This table, used in connection with the one that I handed you, is sufficient to calculate approximately the pressure that would be reached with the opening of a given fire-well.

Defendant counsel, offer, introduce and ask to be filed in evidence document marked Earl C. 3, being a tabulation made by the witness.

Q. Have you prepared any statement, in connection with the diagram, or sketch, illustrating the special or particular action of the discharging of water from either tank, or stand-pipe?

A. I have prepared here a little sketch and calculation, containing an example, a simple enough example, so that it can be followed out quite clearly.

Q. Well, will you give us that statement; read it, will you please?

A. Here is a pencil copy of the diagram which the counsel on the other side might take, so that they will understand the illustration in what I have prepared here.

(Witness reads statement, marked Earl D. 4, which is offered in evidence, in connection with his testimony, by counsel for defendant.)

1272 Q. Have you other tables, or calculations in this connection illustrating the operation and capacity of water-distribution systems?

A. I have here a paper which I have prepared, being first a compilation from the Manual of American Water Works, or from the table already testified about, showing, for several of the largest cities in the country, the number of domestic taps; the average

million gallons per day consumption; the maximum and minimum consumption, and total pumping capacity and then a column showing the amount of water that would be consumed if each domestic tap were discharging continuously three gallons per minute. The discharge of three gallons per minute being at an open-ended pipe, half an inch in diameter, and 100 feet long. Showing what a twenty-three-inch head would discharge, in a minute. This tabulation shows, that, with the exception of New Orleans, there is not a single one of these water-works systems that would be able—the pumping capacity of which is half large enough, to supply such a flow of water. New Orleans, on the other hand, has forty-five million, approximately, pumping capacity, and such a discharge would only mean twenty-three million gallons, this difference, being, of course, owing to the small number of consumers relatively in New Orleans.

This tabulation also shows, in the side notes, that three of these systems only, are what are termed direct-pressure systems, the rest of them are gravity or reservoir systems. Of the three direct-pressure systems, in regard to the matter of stand-pipes, for instance Chicago, has six large pumping stations supplying different portions of the city; two of these largest pumping stations have connected with them stand-pipes, one of 13 feet and one of 5 feet in diameter; the rest of them have no stand-pipe, but pump by direct pressure into the mains. Detroit pumps also by direct pressure; it
1273 used to use a stand-pipe, but it was reported in 1897 that the stand-pipe had been abandoned entirely and they use instead a system of relief valves and gage system—not being described. New Orleans is the only one of the three which supplies by a direct-pressure system, having a stand-pipe of 8½ feet in diameter, as stated in that report.

The report referred to is offered, introduced and asked to be filed in evidence marked Earl E. 5, by counsel for defendant.

Q. Will you please tell us what the function, or office of a stand-pipe *is*, in a system of water distribution?

A. Under the direct-pressure system, the function of the stand-pipe is merely to equalize the action of each stroke of the pumps; some cities that use a large number of reservoirs have also some stand-pipes, as reservoirs, supplying certain small territories and smaller towns have a stand-pipe which is used as a reservoir; but take a large city, New Orleans, for instance, the capacity of a stand-pipe as a reservoir would amount to practically nothing, and in a flat city, where the lower half of it would be of no value, because it would not give pressure, what you would really use would be a water tower; that is a tank set up high rather than a stand-pipe, if you were trying to get a water supply. A very large water tower of that kind would be about 150,000 gallons, the maximum consumption of New Orleans, which has reached as high as thirty million gallons, I am told, would exhaust such a supply as that in eight minutes, so that it would really amount to nothing as a reservoir capacity.

Q. Have you examined the so-called working planes and device of Prof. Ordaway, for the construction of water towers and filtering devices?

1274 A. Casually.

Q. I show you a blue print marked Exhibit A and Exhibit B, connected with the deposition of Prof. Ordway; please look at them and state if these represent working plans?

A. They are not in sufficient detail for working plans at all, no sir; I wouldn't be able to tell anything particular about them, except their capacity and the thickness of the metal used in the standpipe itself; otherwise there are no details at all.

Q. Then it couldn't be put in the hands of a constructor, or contractor to construct that work and carry it on without other plans?

A. No sir; I wouldn't take it that they could.

Q. You never saw anything of that kind for a system of installation, in your engineering experience, did you?

A. No sir I think not.

Cross-examination by Mr. FORMAN:

Q. Referring to your exhibit marked E. D. 4, those are purely hypothetical conditions?

A. That is simply an example; an assumed case.

Q. Referring to your Exhibit E. A. 1 (Earl A. 1) were those calculations made upon rough, or smooth pipe?

A. On standard new pipe.

Q. You have stated that they were taken from Weston's tables?

A. Yes sir.

Q. Weston's tables contain two sets, one for rough and one for smooth; which set are these taken from?

A. Weston's tables contain figures for smooth, wrought pipe and another set for new cast-iron pipe; that is, in cast-iron pipe in large sizes; Weston tables run from half an inch to three inches—

1275 in small pipe, and then from four inc-es to twenty-four, or thereabouts, in large pipe,—cast iron—they are cast-iron pipe and are based on cast-iron portions of the table.

Q. When were you first employed by the New Orleans water works?

A. At various times I have been called on; that was in 1894 that I made that little sketch; that was a study in regard to that matter for the water works Co.

Q. When were you first employed by the water works company?

A. That was the first employment I ever had with him.

Q. 1894?

A. Yes sir.

Q. How many examinations of their system of water supply, or distribution, have you made?

A. That is the only matter of inspection that I have had anything to do with; the only other matters that I have been connected with have been such little alterations in their pipe as were

made from time to time in connection with the drainage work, and little matters of device of one kind or another; anything that they might choose to submit to me.

Q. How many examinations of their system of water supply and distribution have you made?

A. I have repeatedly studied the map of their distribution supply, sir; I have repeatedly studied the map and plans of the distribution system; I have never made any, what you would call total examination of the whole system, or over the whole system.

Q. You made a special study of, and reported upon the distribution in the upper part of town, possibly in the sixth and seventh districts, didn't you?

A. Only to the extent of recommending extensions; and the connection of the extension with the present system to reinforce it.

1276 Q. Didn't you make a report upon that examination?

A. I made a report on the plan of the extension; I didn't make an examination of the ground of the work that was there, I simply took what their maps showed that they had—knowing what they had there.

Q. Didn't you make a report as to the deficiency of that distribution?

A. No sir, I made no report as to the deficiency of that distribution.

Q. You made no report as to what they needed to have a proper distribution?

A. I reported the necessity, or advisability, advised the course of laying those particular mains.

Q. Is that report in writing?

A. I have made a written report to Mr. Craig, yes sir.

Q. I call for the production of that report.

By Judge BECKWITH:

Q. Have you a copy of that, do you know?

A. I think I have a letter-book copy, yes sir.

By Mr. FORMAN:

Q. Will you produce tomorrow your letter-book copy of it then?

A. Yes sir.

Q. As an expert, suppose a condition under which there is a six-inch main running up St. Charles avenue, a distance of approximately four miles from the pumping station, and the evidence of a number of witnesses showed that there was only delivery of water at the height of fourteen feet; would you not infer one of three things; either that there was not sufficient pressure, or head, at the pumping station, or the distribution was very faulty, or there

1277 were a large number of hydrants open, reducing the pressure?

A. It would not take a very large number of hydrants to reduce the pressure on a long line of six-inch pipe. It shows very clearly in the tabulation I have given of the limit of the capacity of any pipe to supply.

Q. Suppose there were no hydrants open; wouldn't the necessary inference be either that there was not sufficient head, or that the distribution was very faulty?

A. The inference might be that there was too much consumption on that line, for the line.

Q. Then the distribution was an inadequate supply?

A. Certainly that would indicate an inadequate supply.

By Judge BECKWITH:

Q. It would indicate an inadequate supply if the call on it was a legitimate call for house service?

A. Certainly, yes sir, a normal call.

Q. Is it not a fact of hydraulic equilibrium that if there is no draft on the mains at all; if it is simply closed thoroughly, that the pressure ought to be uniform and exactly counterbalance the column in the stand-pipe, where the stand-pipe was used?

A. The pressure would be the same throughout the whole length of the pipe if there was no consumption, no motion.

Q. In that case there would be no motion and the equipoise would have to be exact?

A. Yes sir.

Q. Have you ever been in St. Louis, Cincinnati, or Louisville, or any of the upper-river towns?

A. I have been in them, but not to make a study of the water works in them; what I know however is through general knowledge and reading in regard to them.

Q. Were you in them long enough to get at the character or description of water being delivered by the works? I don't ask
1278 you about the works?

A. Yes, they were both delivering the waters that flow past them, with certain efforts at sedimentation.

Q. How much success has there been in clearing water of the opalescent or muddy tint, in either of those places?

A. No real success at all; of course there has been a certain improvement in the water there, but it is in flowing in the reservoirs; but they both are constantly and have been for years agitating the question of improvement of their supplies and Cincinnati is now constructing such improvements after very careful and prolonged experiments on these lines.

Q. Some of the experiments that they attempted failed didn't they, or were abandoned?

A. Well, they recommended those results which came out the best; in some cases I believe they found in filtering that their wash water would take up about as much as their filter water.—It took about all the water that they could filter to wash out their filters again.

Q. St. Louis has a sort of settling-basin system, hasn't it?

A. Yes sir; that is what I understand to be the system in St. Louis.

Q. Did you ever notice the character of water delivered from the taps in St. Louis since they installed that settling-basin system?

A. I know more of it through reading and through the continued dissatisfaction—I don't remember ever having traced it, no sir; I have been through St. Louis a number of times but have never stopped there any length of time.

Q. Do you know whether that settling basin is a satisfactory solution of the question of the clarifying of water there?

A. No sir, that is a question that is still being almost con-
1279 tinuously aggitated and that is inclined towards improvement all the time.

By Mr. FORMAN:

Q. Isn't it a fact that the frictional loss is less, the higher the pressure?

A. No sir, not at all; the frictional loss varies directly with the square of the velocity of the water in the pipe; low velocity have only low frictional loss; high velocity will have only high frictional loss, increasing as the square of the velocity and has no relation whatever with the head acting at the start in the pipe.

Q. Maybe I do not express myself with sufficient scientific accuracy, but the velocity would increase—for instance, if we had a large number of openings on a very long line the wear would be greater—the motion in the pipes would be greater, if every opening were opened—because if every opening was closed there would be no velocity?

A. Certainly.

Q. Then supposing there were a large number of openings on the pipes, so that there is a considerable wear——

A. Yes sir.

Q. Wouldn't that frictional loss be greater if there was a very low head, because there would be more water flowing under a high pressure?

A. It would be the reverse; it would be greater with a very high head; the high head would induce the greater discharge through the openings, consequently the greater wear in the pipe and the friction increases as the square of the velocity increases.

Q. The frictional loss increases as the square of velocity increases, and the velocity would be increased at a very high head then?

1280 A. Yes sir.

R. E. CRAIG, sworn for defendant, deposes and says:

Direct examination by Mr. KRUTTSCHNITT:

Q. You live in this city?
A. Yes sir.
Q. Have for many years?
A. Yes sir.
Q. How many?
A. I came here in 1875.
Q. Where from?
A. From Yazoo City, Mississippi.

Q. Have you any official connection with the New Orleans Water Works Company?

A. Yes sir, I am president.

Q. How long have you been president of that company?

A. I was elected president in February 1888.

Q. Have you been president continuously ever since?

A. Yes sir.

Q. Will you please present a detailed statement of all dividends declared by that company since it was organized?

A. Witness produces statement.

Defendant counsel, offer, introduce and ask to be filed in evidence statement of the dividends declared annually by the water works company from the time of its organization up to and including January 4th, 1899, marked "Craig 1."

Q. Will you present a statement of the receipts and expenditures of the company for the same period?

Witness complies with counsel's request.

Defendant counsel offers, introduce and ask to be filed in evidence statement of the receipts and expenditures of the New Or-
1281 leans Water Works Company from the date when the works were acquired from the city of New Orleans, up to and including the year 1898. Marked Craig No. 2.

Q. Have you made a tabulated statement of the profit and loss account of the company.

A. Witness produces statement.

Counsel for defendant offer, introduce and ask to be filed in evidence statement of the profit and loss account of the company from the time when the works were acquired from the city of New Orleans up to and including March 31st, 1898, marked Craig No. 3.

Q. You have not brought the profit and loss account up to the 31st of January, 1899?

A. No sir.

Q. You could bring up the profit and loss account——

A. The profit and loss account is balanced down every year; and that is the last time it was balanced down——

Q. Prior to the institution of this suit?

A. Yes sir, prior to the institution of this suit.

Q. Would you give me a statement of the condition of the plant and works of the company, at, or about the expiration of the Shakespeare administration, in 1892 and follow it with a statement of the work down during the succeeding administration, commonly known as the Fitzpatrick administration?

A. During the administration of Mayor Shakespeare we had contemplated filtering the water of the city, and that matter was brought up during his administration and Mayor Shakespeare signed an ordinance that permitted us to go ahead with that enterprise and at that time the report of 1892, which was

the end of the Shakespeare administration, showed the mileage of the plant to be seventy-nine miles of plant—pipe—that we had at that time and 1197 fire hydrants and wells. During the administration of the Fitzpatrick — the Fitzpatrick
1282 administration we went ahead with the experiment of the filter plant and that proved unsucces-ful, but during that time we found it necessary to buy new machinery in connection with the filter plant and we installed *tow* new engines and new boilers—suction pipe—we had to put in a new one running out to the river about two hundred yards; we had to take down the building and erect a new one for the new engines, the old ones not being of sufficient capacity or proper shape. After this, we had to make other improvements to this property, and we extended the mains from the upper to the lower limits of the city; we had to reinforce these mains. One of these extensions has been testified to by Mr. Earl; that extension alone, which was not for the purpose of getting revenue, but for reinforcing the main, cost us over $72,000—I have forgotten the exact amount and we ran the mains down to a point below the northeastern depot; I don't remember the streets, but I know it goes beyond the northeastern depot one from Elysian Fields, where I think it had been prior to that time. There was a general overhauling of the works and at the end of the administration of Mayor Shakespeare an increased mileage of thirty-nine—increased the mileage in mains to 118 as against seventy-nine when we commenced—that was thirty-nine miles, and we had put in additional hydrants to the amount of 478. The improvement and extension account stood at the end of 1892 at $438,000 in round figures and at the end of 1898 $822,000; showing that we had expended in that time, in connection with the filter plant and for the purpose of reinforcing the mains for the purposes of supply and giving better service than we had been doing, $380,000, in round figures.

Q. Can you give me the number of fire-hydrants at the end of the Shakespeare administration, and end of the Fitzpatrick
1283 administration?

A. There were 1197 fire hydrants and wells, as shown in the report of 1892, which was — end of the Shakespeare administration, as against 1675 at the end of the Fitzpatrick administration, four years after—the difference being 478.

Q. How was it that you placed, or why was it that you placed so many fire-wells during those four years?

A. Why this administration passed the ordinances requiring us to do it and we understood, from our construction of the charter that wherever a ten per cent. revenue was obtainable from it, that it was our duty to do it.

Q. How about the amount of the extensions and improvements during those four years, compared with the amounts expended in previous years?

A. Well, for the three or four years previous to that, if I remember correctly—I have a tabulated memorandum, but I think it was less than $5,000 a year throughout; the annual reports are here and show that.

Q. I would like for you to show, if you have it in the tabulated shape, the comparison in amounts spent in those four years, with previous years?

A. I have a memorandum showing the amount expended for improvements and extensions during the years 1886, 1887 and 1888.

Q. Will you give the amount?

A. Running back from 1892 would be the better way, I should think.

Q. Running backwards?

A. Yes. In 1891 there were expended $1870—I have given the round figures. During the year 1890, $7119. During the year 1889, $2465. During the year 1888, $3778. That is back to the period of my being president of the company; that is an average of less than $5,000 a year for those four years for the gradual extension.

1284 Q. You spoke of a reinforcing main; where did that main start from and how far did it go?

A. It started from a point about Felicity street—well I don't remember, I think it did——

Q. And went how far?

A. Went up to Carrollton.

Q. And below you stated?

A. Mr. Earl testified at Felicity street; of course I don't know exactly where it was; I think it was Felicity street, it went up to the upper end of Carrollton, out from the river.

Q. Have you a statement, showing the condition of the profit & loss account for the year—each year from 1879 down?

A. I have already exhibited that.

Q. You have got the profit and loss account, but have you anything to show whether, or not, the expenditures for a year, at any one date, were so great as to leave nothing for dividends from the profit and loss account?

A. I have a separate calculation here to show that some years after deducting the expenditures from the receipts that we had considerable more than the dividend that we declared, and for some years something less.

Q. That is what I want.

A. Is that the memorandum you refer to?

Q. Yes, that is the memorandum I refer to; to show the condition of each yearly account by itself and at the same time that you give us of the profit and loss accounts for the number of years.

A. This memorandum I have don't go back for the whole twenty years; it was shown on examination, when this matter was put before the city council in 1886, that the bonded debt, and the dividend and net expenditures and all, were about even, so I didn't go that far back.

1285 Q. How far back did you go?

A. 1886.

Q. If the other side should wish to have any of that information——

A. Yes sir.

Q. Could you give from 1886 down to date?

A. Yes sir; here it is. (Witness produces statement, which is offered, introduced and asked to be filed in evidence by defendant counsel marked Craing No. 4.)

Q. Will you produce a memorandum showing the amount of taxes paid by the New Orleans Water Works Company to the city and State, since 1879?

A. Yes sir.

Mr. Forman says the State offered that statement in evidence.

Q. Have you a statement of the assessment of the New Orleans Water Works Company, for say ten years past?

A. There are the two documents that you called for; they are of later date than the other ones—that is down to the end of the year.

By Mr. McLAUGHLIN:

Q. It takes the reports up to the 1st of April, 1898?

A. Those are included up to the time of the filing of this suit.

By Mr. KRUTTSCHNITT:

Q. You present me with statements showing a memorandum of city and State taxes paid by the water works company up to the first of the year 1898?

A. Memorandum of city taxes up to 1898, inclusive; that is the city, and this is the State.

The two statements referred to by witness are offered, introduced and asked to be filed in evidence by defendant's counsel, marked Craig No. 5 and Craig No. 6.

1286 Q. Will you also present the statement showing the assessment on which that taxation was based?

A. I have them running back to 1886, same period.

The statement produced by witness, is offered, introduced and asked to be filed in evidence by defendant counsel marked Craig No. 7.

Q. Have you the State tax receipts for a year or two back?

A. I have the State tax receipts for 1898 and for 1899.

Counsel for defendant, offer, introduce and ask to be filed in evidence, State tax receipts of the New Orleans Water Works Company for the years 1898 and 1899, marked "Craig No. 8 and No. 9."

Q. I wish that you would state whether there has been any dissension, with reference to the management of the water works company, between the directors who are appointed by law, on behalf of the city of New Orleans, and the directors appointed by the stockholders?

A. I remember only one instance where they differed in their vote; there have been discussions of an amicable nature, at meetings of the board, but a unanimous opinion has been reached in every in-

stance, since I have been president of the company, that I remember, except in one instance. I have forgotten the date, but that was the time when the filter people, after having had two trials, one of six months and one of four months, all at the expense of the water works company, made the offer to have an additional trial, and that was at the end of the period of the second trial, when the river was clear and low—at a low stage and the river was proportionately clear at the time; and the directors chosen by the stockholders didn't think it was wise or proper to give such further trial at our expense, and the representatives of the city on the board thought we ought to give another trial, and we differed in that
1287 particular and the four members elected by the stockholders voted not to give another trial at that time, and the members of the city voted to give these people another trial. That is the only instance I remember of any difference of opinion, that was made manifest at the meetings. If there was any differences on the streets, I never heard of it, to amount to anything—the vote was generally unanimous.

Q. You state that these experiments had been conducted at the expense of the water works; could you tell us what they cost?

A. They cost in round figures forty thousand dollars; and that is over and above some expenditures we concluded were for permanent improvements, such as the buildings in connection with those engines, and I would not take those in, but lost, absolutely lost in this experiment, in round figures, forty thousand dollars.

Q. Will you explain to the court, as clearly as you can, what was done with this item of forty thousand dollars, on your books?

A. We have charged it off to profit and loss.

Q. Considering it an entire loss then?

A. Yes sir.

Mr. McLaughlin says this $40,000 was charged off since the institution of this suit.

By Mr. KRUTTSCHNITT:

Q. Was this $40,000, so charged off, since the institution of this suit?

A. You will find it in the minute book, I don't remember it myself. November 2nd, 1898.

Q. That is date of what?

A. That is the date that this amount of $40,699, was charged off to profit and loss, crediting the account of improvements and extensions.

1288 Q. How was that done?

A. That was done by resolution. Mr. Baldwin moved, seconded by Mayor Flower, and carried, that the sum of forty thousand six hundred and sixty-nine and $\frac{23}{100}$ dollars ($40,669.23) be charged to profit and loss account, and credited to improvement and extension account, on the books of this company; which is the amount incidental to the experiment of giving filtered water to the city of New Orleans, in 1895.

Q. As contained in the minutes of a meeting of the board of directors, of what date?

A. On November 2nd, 1898.

Q. Give us the page of the minute book?

A. Page 333.

Q. Are the details of the entry furnished at that point?

A. Yes sir "they are hereto attached in the minute book."

Q. In what shape?

A. In the shape of an account drawn off, called filter-plant account.

Q. In order to save the court the trouble of analyzing that account, will you state the general character of the items in that account?

A. It is for labor and material chiefly, in connection with that plant.

Q. What is the character of the chief items for material used; named two or three?

A. Alum account and lime account; those were the chief materials used, the balance is pretty much for labor.

Q. Was any representation given to the city of New Orleans on the committees of the board which had the right and the duty to specially investigate the accounts and business of the company?

1289 A. Yes sir, the mayor is always on the committee on the plant, and the treasurer of the city has always been a member of the finance committee, and it has been the duty of the finance committee to examine the entries in the cash book monthly and they have done that and reported to the board. These reports are entered in the minute book from time to time.

Q. They are in writing?

A. Yes sir.

Q. Then if they are participated in by the city treasurer, that will appear from the face of the reports?

A. Yes, reports to the board of directors and they are in the minute book.

Q. The reports of the finance committee to the board of directors are also contained in the minute book?

A. Yes sir, and they are always to the effect that they find the books correct.

Q. How was the money furnished for this amount $383,000 of extensions and improvements.

A. Well, we had, at the time this resolution was passed, a considerable amount of money on hand; I think it was about $75,000. I would like to refresh my memory by referring to the report of the company (witness examines report). We had on hand at that time $72,973.67.

Q. What date was that?

A. That was April 7th, 1892.

Q. Now, I would ask you to look at the report of 1893 and see how much you had on hand then, in cash?

A. $92,183.96.

Q. When did these extensive repairs begin; can you approximate the time they began more clearly than simply to state the close of the Shakespeare administration, or the beginning of the Fitzpatrick administration?

1290 A. Well, they were inaugurated in the last year of the Shakspeare administration, 1892, and they began in the administration of Mayor Fitzpatrick in 1893.

Q. Where had all this large amount of cash come from?

A. Well, we had negotiated the sale of the 250,000 bonds that had been permitted by the city, and were authorized to sell—you see in the report of 1893 the matter is treated upon.

Q. Did they sell any of those bonds in April 1892?

A. No sir.

Q. Where did the $72,000 of cash that you refer to, in report of April 1892 come from?

A. That had been accumulated over and above the receipts of the company and the dividends paid up to that time.

Q. That had been accum-lated from the receipts of the company?

A. Yes sir.

Q. Where did you take the remainder of this sum of $383,000 from?

A. We expended the proceeds of the bonds—the bonds were sold at par $250,000, and we borrowed the additional amount from the bank.

Q. Then without going into niceties of accounting, $250,000 realized from the bond issue; second-mortgage bonds of the company?

A. Yes sir.

Q. We have $72,000 from this cash, which would make $322,000 and the balance came from what source?

A. Borrowed money.

Q. How did you borrow the money?

A. We borrowed part of it by consent of the bank that we were dealing with, we overdrew our account as the expenses arose, and part of it from two demand notes, being permitted to pay it as we accumulated funds over and above our expenses.

1291 Q. Were those loans effected by the president on his own responsibility, or were they in any manner authorized by the corporation?

A. They were authorized by resolution of the board of directors.

Q. Can you find any of those resolutions?

A. I have copies of them and the minutes will show them.

Q. (Witness produces documents.) Are the two resolutions which you now hand me the only two that were passed on the subject?

A. The only two that I know of; one was September 9th, 1892, and the other November 6th, 1895. The other one of September 1892 was prior to the sale of the bonds, I think. We had expended $72,000 and needed some more, and we had not then sold the bonds.

Counsel for defendant, offers, introduces and asks to be filed in evidence two certified copies of resolutions being extracts from the

minutes of the meetings of the board of directors of the New Orleans Water Works Company, marked Craig No. 10 and Craig No. 11.

A. One of these resolutions was offered by the mayor of the city.

Q. I have noticed the first of these resolutions provided for the president and a majority of the finance committee—were those instructions carried out?

A. Yes sir, I consulted with Mr. Schenck, who was on the board at the time and Mr. Baldwin before I made any loan.

Q. Did Mr. Schenck at any time occupy any official position in connection with the city government?

A He was treasurer of the city government and on our finance committee—I have forgotten, just at this moment who was the other member of the finance committee; there were always three, and I think I consulted all three of them.

1292 Q. I believe that evidence has been already offered, to show the number of water-works shares owned by the city but can you give it to us off-hand?

A. 2927 shares and she has three-sevenths of the directors on the board, and one-fifth in stock.

Q. Is the rest of the stock held by a few persons, or generally distributed?

A. It is pretty generally distributed, we have two hundred and eleven shareholders, counting the city as one; and those are mostly all living in the city, one-third of them women.

By Mr. FORMAN:

Q. We call for list of stockholders, if you are going to put that in.

Counsel for defendant, offers, introduces and asks to be filed in evidence memorandum book, marked Craig #12, containing a list of the stockholders of the company.

By Mr. KRUTTSCHNITT:

Q. Have you, yourself, any financial interest in this corporation?

A. Yes sir.

Q. To what extent?

A. As shown in that exhibit 1032 shares.

Q. Have any of your relatives interest, besides that?

A. Yes sir.

Q. How much, could you give it to us without giving the names?

A. Probably 150 shares additional, about.

Q. What has been the course of the market value of the stock during your management, Mr. Craig?

A. When I first became connected with the company it was about a year previous to my election as president, I think the stock was under sixty; I tried to find a memorandum of the price and

1293 I couldn't get it, but I think it was—I have a memorandum I have been able to secure from public records, newspapers of the dates—that stock was at 65 in January, 1888.

Q. Well, now without giving us bills could you—have you ascertained the average value say for five years past?

A. I was shown a statement prepared by the president of the stock exchange, which sho-ed an average from 1893 down to 1898, which was taken from the records of the stock exchange of the actual transactions during that period of time, 1893 to 1898; the average price is 107.99, or in round figures 108.

Q. Per share?

A. Per share and Mr. Huger prepared that.

By Mr. FORMAN:

Q. What was the highest?

A. I see one sale here was 117—that was twenty shares on the 15th of December, 1895; these were sales at the stock exchange; there were sales, during that period, as high as 120 that I know of; they do not appear here at all, because they were not sold through the stock exchange.

By Mr. KRUTTSCHNITT:

Q. What is the condition of the plant of the company, or was the condition when this suit was instituted, say in the beginning of the year 1899, Mr. Craig.

A. The condition of the plant?

Q. Yes.

A. The condition of the plant, as far as I know, was excellent we had a head at the pumping station of 85 to 90 feet; we have increased the plant during that time—that period so that we have now—from about 62 miles—120;—I think it has nearly doubled it; the pressure then was about 40 feet and it is now carried at about
1294 85 to 90; we have as against about eleven or twelve hundred plugs then, the city is paying us now for 1680 fire-hydrants and fire-plugs in addition to that there are over a hundred that we do not get any pay for.

Q. You mean city plugs?

A. There are that many in addition to the amount the city pays for, as shown by the superintendent's reports from time to time. We have improved the property since we have had possession of it and the city has participated in the management and in the profits; we have brought the market value of the property up nearly a million dollars, since we have been in possession of it.

Q. What amount have you expended in repairs?

A. About one hundred and ninety-odd thousand dollars, keeping the plant in order.

Q. The amount expended on improvements and extensions you gave out in 1896 at $822,000; has that been added to since then, up to the institution of this suit?

A. I have a memorandum here of improvement and extension account.

Q. From when?

A. It is up to March 31st, 1878.

Q. From when?
A. From 1879.

Counsel for defendant, offer, introduce and ask to be filed in evidence statement of extension account, rendered by witness, marked Craig No. 13.

Q. You didn't carry it beyond the end of March 1898?
A. No, sir, that is a report that I took *of* from the report that was published; and we have had a report since, but it ran into 1899 after this suit was filed.
Q. Did the $40,000 which you passed to profit & loss as a loss due to the filter experiment for a part of this total?
A. Yes sir, it had not been taken out.
1295 Q. Had not been taken out on 31st of March, 1898?
A. No sir.
Q. Therefore, in order to complete that account up to January 1899 you would have to take the amount passed to profit & loss, as the result of the filter experiment and you would have to add in the amount sustained during the last three quarters of 1898, I suppose?
A. Yes sir.
Q. No, Mr. Craig; I wish you would state why it was that you issued these bills payable and overdrew your account in bank, instead of issuing bonds for this extension in the same manner as you had for the others?
A. We couldn't obtain any advices—as to the amount that would be needed for this purpose; it was a general overhauling of the plant, reinforcing of the mains and extension from one end of the city to the other, and we couldn't tell at any one period of this time exactly the amount that would be required. We had results coming in all the time and the management concluded it would be the more prudent course to borrow the money temporarily that was required, in addition to the sale of those bonds, expecting to reimburse the banks from our revenues.
Q. Why couldn't you issue the bonds in small amounts, from time to time?
A. We would *h*ot have been—we would have had to issue perhaps a second, or third mortgage loan; we had already issued a second mortgage and could at that time had just as readily increased that bonded issue of $250,000; I presume it was never asked for. We could have given $500,000 as easily as $250,000; we cancelled at that time $105,000 of the first issue, and I never had any idea that there would be any objection to make a larger issue, but it was not deemed advisable, because we didn't want to pay in-
1296 terest on a larger sum than would be needed.
Q. Have you ever been in the commercial business?
A. Yes sir.
Q. What has been your business?
A. I was a cotton factor for many years in New Orleans, up to 1895.
Q. Did you ever have any connection with any other corporations or financial institutions than the water works Co.?

A. Yes sir, I am vice-president of the New Orleans national bank, and have been for some years. I am vice-president of the Sun Insurance Co.

Q. From your experience in business and knowledge of financial matters, did you consider it better judgment to borrow money on those bills payable, rather than on long time?

A. Yes sir; I would have preferred that method if I had only to consult myself as to the prudent and proper method of doing it.

Q. What was the highest amount that those bills payable ever ran to?

A. $110,000 was the largest amount.

Q. When was that?

A. That is shown in the report of 1898; I made payment during 1898 on that amount, reduced it to $95,000, at the end of that time; we have since paid off five and expect to pay off twenty before we pay another dividend.

Q. Have you no outstanding assets that might be denominated floating assets, as against this floating debt, if so. what——

A. At the end of 1898 we had $10,000 in bank, and we had over $9,000 bills outstanding coming in from private consumers; and a debt that the city is owing us for fire-hydrants that she has not paid——

Q. How much, about?

1297 A. $4200, the council recognize- the claim and passed the ordinance allowing it to us but it was vetoed by Mayor Fitzpatrick on the ground that there had been no budget for it; I think that is the reason he assigned for it.

Q. Was the correctness of the claim disputed?

A. Has never been disputed, no sir; the ordinance was passed recognizing it and we have material and filters on hand—I think at that time between seven and eight thousand—this forty thousand on the filter experiment was a part of the purpose for which we borrowed money; that is recognized as a loss and has been charged off.

Q. That was not considered an extension or an improvement?

A. No sir.

Q. Is there anything in connection with the general line of investigation that I have pursued that I have ommitted or that you would care to bring forth that would be of importance to any party to this litigation?

A. I don't know of anything. We have done the best we could for the management, I will say in every instance and for all the stockholders. The city has stock in it and I have stock in it, have had stock in it for eight years; have faith in the management and evidence it in that way and I have never understood that anybody has been injured by our management.

Q. There is nothing else that you care to say in connection with the finances?

A. No, none whatever.

Cross-examination continued until tomorrow.

1298 Civil District Court, Parish of Orleans.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS. } No. —.

Testimony for defendant taken in open court this 17th day of January, A. D. — before the Hon. Geo. H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLaughlin and C. C. Frederichs, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt and Howard McCaleb, for defendant. Branch K. Miller, Esq. for Board of Liquidation.

Counsel for defendant, offer, introduce and ask to be filed in evidence copy of proceedings of joint session of common council of city of New Orleans, held on July 6-h, 1869. Original inspection and assessment of the franchises, building and establishment, for the year 1898.

L. S. GARDNER, recalled for defendant, deposes and says

Direct examination by Mr. KRUTTSCHNITT:

Q. Have you looked through the pages of the reports as per memorandum that I gave you, *swho*-ing pages—filed in evidence by the State, yesterday?

A. I have.

Q. Will you state to me, generally, anything that you have to say on the subject of the different matters therein shown, as to defects, or breaks in the pipes, or in the machinery, or any of the other apparatus of the water works Co. or other short com-

1299 ings complained of by you?

A. In a general way, I would say, that they are only such defects, accidents, etc. as are incidental to a large plant, such as the New Orleans water works, or any other large distribution; and those defects and breaks, or other repairs have been attended to always, promptly.

Q. Will you now take up, in detail, the different pages filed in evidence and state, as I call them off to you, and give the number of statement, as to your explanation of it; now for report of October 6th, 1890, page 11.

A. Old engine stuck; the main engine refused to work by losing its priming, that is falling of the suction pipe. There is a reference made to the bad condition of the pumping machinery; also a reference to having no spare machinery. That is a report made to the board of directors, with a view to urging them to the repair, particularly, of the main, or beam engine. This repair to the beam engine was subsequently made and the pumping plant was improved by the addition, later, of two triple-extension Allis engines, ten million gallons capacity, each.

Q. That was done when; this large addition of the Allis engine if you have not the date, approximately will do.

A. I have a memorandum here—at that moment I hadn't it; the contract was let to Allis & Co. 1892; the engine was in operation *then within no later than 11 or 12 months.*

Q. Will you turn to page 13th of your report of November 5th 1890 and state what the complaint was, and what you have to say for it?

A. I see nothing here, in the nature of a complaint, or basis for a complaint.

Q. For report of August 5th, 1891, page 35.

A. Complaint of the worn condition of the 48-inch check-valve of the suction pipe on the main engine; that was reported
1300 and was temporarily repaired and subsequently, on large repairs being made, this valve was replaced by a new one.

Q. Well, within what space of time, giving in round figures, after that date?

A. The new valve was put in within twelve months of that time; in the meantime, temporary repairs were made to the old one.

Q. Will you look at your report of January 6th, 1892, page 39; state what the complaint was, and what your explanation is?

A. Two engines were reported as having lost water; ceased to work—due, so the engineer reported to me, to defective or leaking valves in the pumps; those are the fixtures to the pumps and they were immediately repaired.

Q. Report on page 41, date not given?

A. There was a rupture or break on the suction pipe on the main engine; did no damage, only interfered with the working of the engines, caused by some of those numerous accidents that occur to any pumping machinery, or any machinery of any kind. It was immediately repaired.

Q. March 7th, 1894, page 59?

A. That is a complaint that I made of the poor pressure at Calhoun and Hurst streets; the pressure there, prior to the laying of this large reinforcing main was poor; there is no question about that; it was due to the gradual extension of six-inch pipes, long extension, and finally it became absolutely necessary to lay the reinforcement main to the upper part of the city.

Q. When was that done?

A. The contract was awarded in February 1895 and the water was turned on, from Race to Carrollton avenue in October, 1895.
1301 Q. Then that defect was remedied in that way?
A. It was.

By Judge BECKWITH:

Q. Mr. Gardner, when you say that the pressure was low there, you mean, I suppose, that the demand on the pipe was so large that the six-inch pipe was not large enough to convey; of course if there was no draught there the pressure would be the same there as it was through anywhere?

A. Certainly, I should say so; I can give you details of the extention, if you want it.

By Mr. KRUTTSCHNITT:

Q. Give us the details.

A. This reinforcing main, that I refer to, was a thirty-inch main on Coliseum street from Race to Josephine; twenty-four-inch main on Coliseum from Josephine to Louisiana avenue; eight-inch main on Washington avenue from Coliseum to St. Charles, eight-inch main on Washington avenue from Coliseum to St. Thomas; twenty-inch main on Chestnut to Upper Line; 18-inch Chestnut to State street; 18-inch on State street from Chestnut to St. Charles; an eight in. main on Peters avenue from Chestnut to St. Charles; 12-inch main on St. Charles to Carrollton avenue; the total was 35,456 feet, under that contract.

Q. The cost.

A. As-warded to Manion & Co. $7,413.56.

Q. Now, I would ask you to refer to your report of July 5th, 1894, page 65, which is offered in evidence; state complaint and the answer.

A. There was a poor supply on Philip street; a small main running to a dead end; I recommended that that be extended to Prytania in order to reinforce it and that was done immediately.

1302 *mediately.*

Q. Look at your report of October 3rd, 1894, page 22 and state what the complaint was and what the remedy?

A. Well, lack of pressure above Louisiana avenue; I made a written recommendation for an immediate reinforcement; the main itself was laid and completed, as I have testified.

By Judge BECKWITH:

Q. You mean by lack of pressure that the call on the main was more than the main would convey?

A. Well, that is perhaps better expressed than mine——

By Mr. KRUTTSCHNITT:

Q. November 7th—page 75?

A. That refers to breaks on the main pipe; I presume due to increased pressure, poor pipe; I will say that all of those breaks, without any exception have been on a poor quality of pipe laid by the city, and faulty pipe, without exception where those breaks have occurred and I have asked to have my attention called to the condition of the pipe when these breaks have occurred, and, as I stated before, I found, without exception, it was due to faulty pipe and that was pipe that was laid by the city of New Orleans when the works belonged to them.

Q. How could you ascertain whether, or not, those defects existed?

A. Cannot ascertain that at all until the break is manifested.

Q. Then what did you do?

A. We immediately repaired it.

Q. And that was done in every case?

1303 A. That was done in every case, yes sir.

Q. Now there may be in some of your reports that I refer to some cases of the same kind; that is to say, breaks due to increased pressure—that is breaks in the pipes; it will be unnecessary, if that be the case, for you to go into a full statement, but merely refer to those and say the answer is the same as the former cases, if it be the same. March 6th, 1895, page 87.

A. I find in my report to board of directors, under that date that I urged important repairs to the beam engine; there is also a report there of the breaking of two lengths of 40 pipe.

Q. As to breakage of the pipe, is that the same——

A. As I stated a moment ago.

Q. As to breaks in the beam engine; what were those?

A. Those regairs to the beam engine; that is contained here—this was in March 1895; and the repairs to the bean engine were undertaken and completed in 1896.

Q. Were they extensive?

A. Quite so.

By Judge BECKWITH:

Q. The engine was compounded, wasn't she?

A. The engine was compounded, overhauled and compounded.

By Mr. KRUTTSCHNITT:

Q. October 26th, 1895, pages 98 and 99.

A. Well, that reports the Manion and Co. completion—I see nothing in the shape of a complaint in that report.

Q. There are some comments there on the opening of hydrants, are there not?

A. Yes, it relates to the wholesale and indiscriminate opening of the fire-hydrants and calls the attention of the board of directors to the resolution *was* was offered by Counciliman Meyer and adopted by the city council October 24th, 1895; the resolution was,

1304 "Owing to excessive drought and *and* consequent suffering caused thereby, the New Orleans Water Works Company be requested to open the water plugs throughout the city."

Q. Will you turn to page 109 of report of July 1st, 1896; what complaint do you see in that?

A. Breaks on the main pipes which I explain as I did before. The breaks all of them, as a matter of course, were promptly repaired with new pipes.

Q. All those breaks were in the city pipes?

A. All those breaks were on the last pipes laid by the city of New Orleans.

Q Look at pages 115 and 117; of your report of January 6th and February 3rd, 1897 and see what complaints, if any *and* made in those and see whether you have any comments to make.

A. 115——

Q. Yes and 117.

A. The engines are reported there to have lost water; that was

sought to be remedied in various ways; one suggestion was to locate tanks, on an elevation; a lot of engineers were consulted in regard to it, and it was finally decide- to run the pipe for the special purpose of priming these suction pipes; and that was done by laying the 12-inch mains from Market street down S-. Peters, connecting with the 18-inch main on Market street, which led down to the pumping station and connected with the 30 and 36 and 48 inch suction pipes; that work was done within thirty days after *it was* report was made that the engines were losing water.

Q. And the effect?

A. The effect was good?

Q. Has there ever been any trouble about this matter of the suction since that?

1305 A. No.

Q. Anything on 117?

A. That relates to the breaking of those pipes.

Q. That is practically the same explanation as the other?

A. Yes sir, the same.

By Judge BECKWITH:

Q. Will you explain what you mean by——

Q. It is the water coming out of the suction between the engine and the reservoir, isn't it?

A. Yes sir.

Q. Do you remember any device, supplemental device for flushing in case of an accident; laying of a pipe to the reservoir around so that you would not be dependent entirely upon any failing of city pressure for flushing?

A. That is a device that was adopted and put into operation.

Q. That pipe connects with the reservoir?

A. With the reservoir.

Q. That is independent of the system, is it not, other than being connected with the reservoir?

A. It is in the general distribution system——

Q. And a supply of water is kept in the reservoir adequate to suction, in case of a loss of water in the suction?

A. Yes sir.

Cross-examination by Mr. FORMAN:

Q. Did you bring the contracts of the New Orleans Ice Company?

A. I did.

Q. Are these papers you handed me?

A. They are.

The documents referred to are offered, introduced and asked to be filed in evidence by plaintiff's counsel.

Q. I observe that the second one; in point of time does not come under the same date or price?

1306 A. Really, I was in such a hurry, and have been so busy that I didn't get the contracts myself; I could give you no information in regard to it, without looking at it.

Q. I asked you yesterday, to ascertain what price per thousand they were paying, while they had the meter?

A. Is that not included there?

A. The earliest dated contract that you handed me this morning, is dated October 25th, 1884; it appears however on the face of it that it was paid $1000, for the year from October 1884 to 1885; but it does not appear what it was for; and I would ask you what it is for?

A. I am not able to answer that off-hand, Mr. Forman; I will investigate and give you the information.

Q. Have you no books of record here that will show it?

A. For 1884 and 1885? I think not.

Q. Now, the second contract which you produce is dated October 7th, 1895 and appears to be a contract for five years after that, but does not state the amount to be charged annually can you state what the amount was?

A. It is certainly a singular omission; the amount is not specified in that contract; but the notes were drawn for whatever amount it was—the notes were drawn for it.

Q. I am seeking for the information of how much it was?

A. I am not able to give you that.

Q. Have you any records that will give it?

A. I have, oh yes.

Q. I ask you to produce them, and also give us the rate per thousand gallons they were paying at the time they had the meter?

A. I will give you that also.

Q. Your meter book is already offered in evidence here, showing the rate; did they use a meter?

1307 A. Yes, but as I showed you yesterday, the rate is not recorded.

Q. In most of the other cases it is?

A. Yes sir.

Q. That is what I want to get at; what was the rate per thousand gallons?

A. I cannot explain the omission—it is not there—but we can ascertain, I don't think there is any doubt about that.

By Judge BECKWITH:

Q. As to the ice factory on Magazine street; the Consumers' Ice Company, the water supply stopped when they sunk wells, didn't it?

A. Yes sir.

By Mr. FORMAN:

Q. I will also ask you to give us the rate at which other ice companies were supplied, when they had a meter?

A. Yes sir.

R. E. CRAIG, recalled, for direct examination.

By Mr. KRUTTSCHNITT:

Q. Yesterday you offered in evidence a list of the shareholders of the water works company; I did not ask you to state specifically when that list was made, will you state it now—will you state as to what date that list was made?

A. I have a letter from the secretary of the company, stating it.

Q. I think if you state the fact that these gentlemen won't ask you for that letter.

A. December, 1898, this letter is from the secretary, to that effect.

Q. You state, as a fact that that list was of date December, 1898?

A. Yes sir.

1308 Q. The holdings have changed since then, I suppose?

A. In some instances, very few instances. Mr. Janvier called at the office this morning and called my attention to the fact that the published list included the 170 shares that were owned at that date, December, 1898, that they were included, but that he had sold them in June 1899.

Q. In whose name did they stand?

A. In June, 1899.

Q. Before they were sold by Mr. Janvier?

A. Stood in the Sun Insurance Company's name. They were sold to Hyams, Moore and Wheeler. I have a statement in the stock ledger of the Sun Insurance Company, and the Sun Mutual Insurance Company, prior to that—same company but different name, I would like to submit that, showing that they had disposed of them June 16-h, 1899.

Q. You are also a director in the Sun Insurance Company?

A. Yes sir; also a director in the Sun Insurance Company.

Q. And you know that to be a fact?

A. Yes sir.

By Mr. FORMAN:

Q. 170 shares were transferred to Moore, Hyans & Co.

A. Yes sir, on June 16th.

Counsel for defendant offers, introduces and asks to be filed in evidence two documents produced by the witness marked Craig No. 14 and No. 15.

By Mr. KRUTTSCHNITT:

Q. Yesterday you spoke about the price of the stock of this corporation, how it varied; will you state what it was early in 1898 and how it varied during that year?

A. I have a copy of a memorandum you made, January 1898 there were sales at 112½ and in May, May 24th, 1898—no

1309 prior to that, March 11th, there were three sales one at 110 and another at 111, and another at 111—May 24th there were sales at 107.

Q. What is the next sale, after May 24th?

A. August 5th, 1895—November 30th, 1898—December 7th, 1894, and December 30th, 1895; the average sales for the five years, including these low sales was 108 a share, for the average five years.

Q. On yesterday you furnished your profit and loss account up to close of your fiscal year, ending March 31st, 1898; I asked you to extend it up to the institution of this suit, say 23rd of January, 1899, or I believe I asked you for the 1st of January, so as to make the round figures; can you give it?

A. I have done that in this way; in our published statement of 1899, which is the end of the company's fiscal business year and the time we make these entries in profit and loss account; after entering the filtering matter, that was spoken of yesterday of $0,000, profit and loss account stood, March 31st, 1899, $94,660.83; the profit of the year would have been shown by the forty added to the ninety-four, which would be 135,330.06. Now, in order to get at the profit and loss account from January 1st, or the time of this suit, the only method I could take would be to assume that what would be for the nine months from April 1st to January first would be ¾ of the total of the year, which would be $114.497.

Q. You have furnished that in the memorandum which you now hand me, which I offer, introduce and ask to be filed in evidence marked Craig No. 16. Have you a statement of the receipts and expenditures; have you any other document that you wanted to offer?

A. That is bills payable that I wanted to offer; you
1310 asked me yesterday if there had been any resolutions about borrowed money; I wanted to explain that matter exactly, if it is confined to my own—our own administration—while I was an officer in the company—president, and I have brought a memorandum of the amount of bills payable as it stood, showing that the first moneys were borrowed under that resolution that was offered yesterday. We borrowed, after that resolution was offered, in the early part of September—I have forgotten the date, it is on file here, following that September 22nd, we borrowed thirty-five thousand dollars and gave a note for it.

Q. If you have the statement, and will produce it in evidence I don't think it is necessary to read off the items; unless you are specially——

A. That bills payable was paid on the December following, and so on.

Q. You know nothing about the bills-payable account prior to the time when you were president, do you?

A. Only as shown in the annual reports.

Q. Was there any bills-payable account, prior to the year 1892?

A. I think there was some slight amounts billed from time to time, during the Toby administration; I think the books show that, and what I did this for is, as I am quoted as having said that there were no other resolutions, I want to state to the court that I referred to the resolution during my own administration.

Q. And you had looked prior to that, either one way or the other.
A. No sir, I did not.

Counsel for defendant offer, introduce and ask to be filed in evidence, bills-payable statement marked Craig No. 17.

1311 Q. Have you any statement of the receipts and expenditures for the fiscal year ending March, 1899, so as to bring the statement up to the 1st of January, 1899?
A. I have it, but I handed it to Mr. McLaughlin.
Q. The first nine months of the fiscal year, ending March 31st 1899?
A. That brings it down to January 1st, 1899; cash receipts April 1898 to December 31st, 1898, and disbursements—you have that already.

The document produced is offered, introduced and asked to be filed in evidence by defendant's counsel marked Craig 18.

Q. Are there any facts connected with your evidence of yesterday to which you wish to call attention, or about which, perhaps I have not interrogated you?
A. Mr. Beckwith mentioned something about the authority of the city government—connected with my examination—there is nothing that I remember.

By Judge BECKWITH:

Q. You had, individually, a very considerable to do with the inauguration of the plant by which an attempt was made to filter the water for the city?
A. Yes sir.
Q. And with the execution of the work?
A. Yes sir.
Q. Some of your testimony of yesterday might possibly be construed, as taken down, to indicate that some permission to inaugurate the improvement and establish the filter plant had come from the city; did you mean that, or not?
A. I meant that the city had authorized by an ordinance the borrowing of the $250,000, which included among other things, the improvement of the plant and I believe that is offered in evidence and shows for itself; but it includes a number of things, and
1312 in connection with it, the attempt to filter water.
Q. What you meant was?
A. They authorized us to borrow the money on the bonds we issued.
Q. Do you mean to say that permission to issue the bonds was necessary, in order to obtain advances necessary to inaugurate the improvement of the filter plant?
A. In connection with other improvements that were needed, yes sir.
Q. Can you state to the court whether great or little care was

taken in entering upon that improvement to ascertain the best demonstrated means for clarifying water?

A. Yes sir; we corresponded with other people about it, and we—the superintendent and I *went* up to Chattanooga to see the plant in vogue there; also to Atlanta, and I went to Kansas City; some of the other officials went to the same towns and other towns and we finally concluded that these New York filter people had the largest plant and we were still doubtful about it and wrote to them that we were new at the business and that we thought they had better come down and experiment for a year with our waters, as the plants we had visited were chiefly upon waters that were not such as that we have to contend with, and that I thought before contracting it would be better for them to come down and examine the water, experiment with these waters on a larger scale than the ordinary house filter, for a year, and see if they could filter water in the various stages that this river is at different times. They wrote back that they were beyond the days of experimenting and were ready to contract. We went into a contract with them calling for a specified amount of water and character of water free from opalescent tint and sediment; and we gave them six months' trial, under a written contract and this trial resulted
1313 in the demonstration of the inability of the plant to filter the water either in quantity or quality as the contract called for. The filter people then stated that the defects in their plant were the cause of their failure and that they would remedy those defects, *with* we would permit them to have another trial; so, after taking the matter up with them, and being anxious to succeed in our undertaking, we concluded to make another test; but limited it to four months; these tests were very expensive, we had found by previous experiences, and as the whole experiment was done at our expense, the first six months and second four months, we didn't want to incur more expense than would be necessary to demonstrate the capacity of the plant to do the work, or not to do it; at the end of the four months' trial, and during the trial it was demonstrated that the plant was utterly incapable of complying with the contract to either supply the quality or quantity of water contracted for and we rejected the plant. That resulted in a suit and it was demonstrated to the satisfaction of the district court and the supreme court of the State that the plant had failed.

Q. That suit of The Filter Company *vs.* The Water Works Company was on that contract as modified, concerning the second test, was it not?

A. Yes sir.

Q. The correspondence in regard to it is in that record?

A. Yes sir.

Q. Do you remember who represented the water works company as expert, on that second four months' test?

A. Judge Beckwith.

Q. In your evidence yesterday, you signified as the only occasion, where the city representatives on the board of directors and
1314 the stockholders' representatives differed, was on the question of whether an additional test should be allowed to that

plant afterwards; and on that occasion the two city members present voted in favor of granting another test, the stockholders' representatives against it, do you remember whether any expert had appeared before the board during the progress of that four months' test and given a true statement of the condition of things, the operation of the plant?

A. Yes sir, the expert had reported verbally to me almost daily as to the operations and the difficulties in the way of their success and the total incapacity of the plant from his point of view; and I think he also made such statements to the board of directors verbally; I think we invited him, on more than one occasion to report progress. At this meeting, I will state that I think there were three representatives of the city present, as your question indicated and the four directors elected by the stockholders were all present, I think; that is my recollection of it, I know that the arguments that I used with the board were to the effect that I was satisfied the plant was incapable of doing the work and that we had all the expense to incur, the city not being under expense—except incidentally as a stockholders; and these representatives of the city, I thought, should not force us to go into another expensive trial, when really the situation at the time was such as to hardly make a fair test; the water, as I stated yesterday was at that time at a low stage in the river, and was comparatively clear water;——

Q. Did the city, ever as a municipal corporation, aside from the amount of stock that it had in the New Orleans Water Works Company, contribute a dollar to secure the filtration of water?

A. No sir, not that I am -ware of; and I would have been
1315 aware of it had it been done during our administration.

Q. Has the city as a municipality ever approach- the New Orleans Water Works Company to enter into any contract for the installation of any process or apparatus for filtering the water delivered to the city?

A. No- to my knowledge.

Q. Could hardly have been done during your administration without your knowing it, could it?

A. No sir.

Q. Did it ever occur during your administration, or from your examination of the records do you find it occurred before that time, that there was over a ten per cent. net earning or revenue, by the New Orleans water works?

A. No sir.

Q. Did it ever approach anywhere near it?

A. No.

Q. I now call your attention to the filter plant, again; and ask you where it; where it that filter plant?

A. It is up at the works.

Q. An obstruction or an advantage?

A. It cumbers our ground, for which the owners are paying rent.

Q. Then it is connected with the income of the company in the way that the owners of it pay a rental for the ground—for the space it occupies?

A. Well, there has not been much income in that direction, because they have only recently paid a part of the rent; within the past three months.

Q. The rent is in arrears?

A. The rent was in arrearage at the time of this suit.

Q. At the time of this suit the rent due you, was a bill receivable?

A. No sir, didn't enter it upon the books at all—it is not
1316 *not* shown as an asset.

Q. But, in fact?

A. It is, in fact, an asset, but we haven't passed it up on the books, because we had the property in hand, and there had never been any entry of the rent due, from month to month and it does not appear on any of the statements prior to December, 1898.

Q. Do you remember anything of the controversy that came up between the company and the Maginnis cotton mills, and the Maginnis oil mills in the latter part of the eighties or the early part of the nineties?

A. I remember only in connection with the cotton mills. Mr. Maginnis came to see me about it; I think it was in 1889. He came in to inquire if we were going to enforce the collection of the bill that had been presented by the proper officials of the corporation—or if the bill had not been presented the amount had been stated and there had been some controversy between them. He came in to know if we would enforce the collection of that amount. I told him if he meant that we would undertake to force collection in advance, by closing off the water, that we would not do so; that he could go on and use the water for the year undisturbed by our company and that at the end of the year we would contend for the payment at 15 cents per thousand gallons, for the amount of water consumed and that from present indications, as far as we could learn, that he was using an amount that would justify the bill of $7500; and that at the end of that time, if we could not adjust it by processes that had already been mentioned between him and the superintendent—meaning arbitration, or the measurement of water by meter—that we would sue for the amount of our bill and let the courts decide; but, in the meantime, I hoped he would inform himself—during the year—that he had uninter-upted use of the
1317 water as to the quantity he was using. I asked Mr. Maginnis if he had consulted with his engineer; he stated in reply that he knew that he was not using the amount of water that we were contending for. I told him that his engineer, or any other competent engineer could inform him approximately, if not accurately as to the amount of water; and that I hoped he would, during the year learn. I didn't have any more interviews with Mr. Maginnis until after the payment of the bill. That is my recollection of it.

Q. Where did this interview take place?

A. The first one?

Q. Yes.

A. What I have related took place in my cotton office; I did not then have a desk in the water-works office; hadn't been president very long; and the year previous I didn't occupy a desk there.

Q. Was that interview a pleasant one, or a violent one, on his part or yours?

A. Why there was not any violence at all. Mr. Maginnis when he first came in was dignified and indicated that he was not in a very excellent frame of mind about the magnitude of the bill as he spoke of it; but during the conversation there were some jocular remarks passed between us. I remember his stating that if we charged everybody at the same rate that we proposed to charge *gim* we must be making a great deal of money; I told him that if he felt that way he had better buy some stock of the water works Co. He smiled and went out.

Q. Did you have anything to do with any controversy with him, or the corporations he was attached to, about the supply for the mill, after he had sunk his wells; about the meter?

1318 A. After the payment of the bill, Mr. Maginnis asked me if we would take $2500 for the service; I told him not for the service that he was using; the quantity of water, but that we would sell it to him at 15 cents a thousand gallons, the measurement to be by meter. He had previously been offered these same conditions the water works company to pay half the meter and his company to pay half, and the meter was expensive, because of the size of the main going into his mill, it would require a six-inch meter; and the price of the one we put there afterwards, I think, was something under eight hundred dollars, between seven and eight hundred, nearly eight hundred. He told us we could put any device in for measuring the water that we chose, but he was going to dig wells; and we — in the meter for our own guidance in estimating the value of the water that he would have occasion to use through our pipes.

Q. Is that meter there now?

A. Yes sir.

Q. Have you anything to do with the management or administration of the Charity hospital here in the city?

A. Yes sir, I am a member of the board of administrators of the Charity hospital.

Q. Were you administrator at the time of the erection of what is known as the Milliken memorial?

A. Yes sir.

Q. That was built, I believe, from funds bequeathed by the late Mr. Milliken?

A. Yes sir.

Q. Was it for no particular use, for a general hospital, or for some special——

A. It is intended more especially for children.

1319 Q. Now, did the company make any question as the gas company did, about their coming within their contract for their water supply?

A. No sir, none whatever. I offered them, in addition to furnishing the water for the usual consumption that would be required, I offered to put in some fire-hydrants for protection; all of which was received and thanks offered.

Q. Is there a large or a small supply for that place, demanded for that Milliken memorial?

A. It is a large supply.

Q. Will you state to us how the business of the water works company is carried on in relation to the various branches, take for instance the meter division, and the accounts that are kept of meters? Is that allotted to any particular person, or staff?

A. Yes sir, that is allotted to a gentleman by the name of Hands, who has testified here; he has been in charge for some years; at one time he was employed at another place for a short while, I don't remember the time; but he came back to our service.

Q. What are the duties performed by that department?

A. His duties are to read the meters monthly; to ascertain the consumption during the month; prepare the bills to be rendered to the consumers; and to see that the meters are in order—giving proper service.

Q. And the amount of water that is charged; the water delivered through the meter is taken from the accounts and reports of that department?

A. Yes sir.

Q. Would the general administration, you, or the superintendent know if any error occur-ed excepting what is reported there
1320 by that department, or by the parties who are taking the water and who are affected by it?

A. You mean an error in the amount of the bill?

Q. Yes, an error in the amount of the bill.

A. No sir, unless we heard from the consumer, or unless Mr. Hands should himself discover it and correct it, or report it.

Q. In case of error in reading the dials, or anything reported to you or to the general management or otherwise, would it *mot ne* corrected—be*en* looked into at once, and correct- if wrong?

A. Yes sir, promptly.

Q. Do you remember of any complaint of that sort, showing alleged errors; alleged or actual errors of the meter department in the reading of meters and predicating bills to consumers on such readings?

A. There may have been, I have often been interviewed by people about their bills; the- would complain about the price, sometimes about the reading; I don't have any particular ones in my mind at this moment.

Q. What I mean to ask you, is, whether such a case receives prompt attention?

A. Yes sir, it would receive prompt attention.

Q. And the actual data obtained and acted upon?

A. Yes sir.

Q. In the department that has charge of the collection of water rates other than meter rates; how is that department carried on?

A. That is about the same way; those assessments as was explained by the superintendent here, are made by men employed for that purpose; when the assessments come in the tariff is looked at,

the prices are fixed, generally by the superintendent; they are given
then—these slips—to the proper clerk to make out the bills;
1321 they are handed then to the collecting department and the
parties are called upon for their money; and when the bills are not paid they are reported back to the office and the reasons stated; sometimes we seek interviews with the p-ople who don't pay promptly and sometimes they seek interviews with us; and when there is any difficulty, and it reaches the proper officer, it is promptly attended to.

Q. To what extent, if any, has the operation of the water works been affected, in distributing water to the city, by the illegal opening of fire-hydrants and blow-outs?

A. Well, that has been a matter that has been testified to here by the superintendent and I have been familiar with it, as he has testified to it; we have suffered considerable in that way, not being —at times to comply with contracts we had with private consumers, because of the unlawful and improper opening of the fire-hydrants throughout the city.

Q. Do you remember any time that there was an aggravated opening of the hydrants; some time in November 1897; during the epidemic—do you remember an instance there where the works were put in peril?

A. Yes sir, that has been testified to chiefly by the superintendent, the one that I have most upon my mind is the one that occurred in May 1898, at which time I communicated with the authorities and called for their protection.

Q. In what year?

A. The one previous to that that you spoke of, or subsequent to it—1897 you asked?

Q. I asked 1897.

A. That is probably the one Col. Gardner testified about; this one I refer to was more especially in May 1898, Mayor Flower was
out of the city temp-rarily and I addressed a letter to Acting
1322 Mayor Brittin. I have a copy of it.

Q. Have you a copy of it?

A. Yes sir, shall I read it?

Q. Yes.

A. It is addressed—To the Hon. A. Brittin, acting mayor of the city of New Orleans, dated May 28th, 1898 (read by witness).

Which said document is offered, introduced and asked to be filed in evidence by defendant'- counsel marked Craig No. 19.

Q. Did it produce any result?

A. Well, my recollection is that Mr. Brittin turned the letter over to Mr. Gaster; Mr. Gaster called to see us, about it—maybe that is the time of the meeting with the company, I am not sure whether that resulted in the conference with Mr. McGary that he testified about—I am not sure about that.

Q. You remember meeting some time, Mr. McGary?

A. Yes sir.

Q. That was about another extensive opening, wasn't it?

A. It may have been, I am not sure, whether it was that or this.

Q. Has the company ever complained of the proper opening of the hydrants in adequate numbers, and with adequate openings to supply people along where its lines run in time of drouth?

A. No sir, on the contrary, we have ourselves, through our own employees opened plugs at various places and at various times for the purpose of relieving the situation as much as possible.

Q. The question was asked one of the witnesses the other day if the multitude of illicit and unlawful opening of hydrants had ever been prosecuted and the penalty enforced; do you know of any reason why it was not done?

1323 A. Well on the general ground that we didn't want to oppress the people; we are quite willing to spend our money and give all the water that would be needed for epidemics and for furnishing the people with water and carrying out our contract with the city, and we didn't feel like punishing anybody that was endeavoring to get water—we don't want to be oppressive.

Q. And an adequate number of hydrants properly opened, not wide open, would not interfere with the general operation of the water supply, would it?

A. No sir; we don't hear of any complaints, at any other times except in times of drouth, when these depredations are committed.

Q. Have you at any time had a chemical analysis made of the water in the mains in the vicinity of the in-takes—in-take pipes?

A. Yes sir, I employed Dr. Jos. Albrecht to make an analysis in 1896.

Q. Did he make an an-lysis?

A. Yes sir.

Q. Did he report the water in any way objectionable?

A. No sir, on the contrary, he quoted it as pure and wholesome—as well as I can remember.

Q. Did he make his report to you in writing?

A. Yes sir.

Q. What has become of the original?

A. The original I furnished to the officers of the State that were investigating the water works company here; the legislative officers; I gave them the originals, at least I submitted them to them; prior to submitting them I took copies; I have them with me.

1324 Q. The originals are those that you lodged——

A. Yes sir, these are the copies, and copies of that correspondence.

Q. Albrecth had a reputation as a chemist, had he not?

A. Yes sir.

Q. Had been for a long time chief assayer at the U. S. mint?

A. Yes sir.

Defendant'- counsel offer, introduce and ask to be filed in evidence compilation marked Craig No. 20.

Q. He is dead, is he not?

A. Yes sir.
Q. When did he die, about when?
A. He died subsequent to the meeting of the legislative committee, because he testified in there; I don't know the date of his death, don't remember it.
Q. But it was within a short time past?
A. Yes, sir.
Q. Is there any other matter you would like to speak about?
A. I don't know of anything.

Cross-examination by Mr. McLoughlin:

Q. These statements that you have filed in evidence—I take the one marked Craig No. 2, receipts and expenditures; does the receipt side include anything except your revenue proper from water rates?
A. I think they include all receipts; all money receipts.
Q. Do they include bills payable, and bonds also?
A. Oh no, I should think not.
Q. The- include everything except bills payable and bonds sold?
A. Yes sir.
Q. They include everything except bonds sold and bills payable.
1325 A. Why, I presume so.
Q. The disbursements, do they include anything that was spent for gradual extensions.
A. I cannot tell, this was compiled by Mr. McMurdough.
Q. I have gone through the report and I am satisfied that they are nothing but the expense proper, but we would like to get it.
A. I cannot answer that knowingly; really, if you remember these documents were prepared for the legislative committee—they were prepared at your request—and they, I presume cover just what you called for.
Q. Now, I show you document marked Craig No. 13. Amount expended annually for permanent improvements, that amount forms no part of the disbursement part of this?
A. Well, that is the same answer, Mr. McLaughlin; you called for these documents, this copy, and our effort at the time was to comply with your request.
Q. Could you refresh your memory by looking at the reports of any year, and answer that?
A. Whether that includes disbursements?
Q. Whether this account of disbursements includeds improvements and extensions.
A. I don't think that was the intention at all.
Q. It does not, as a matter of fact?
A. Well, I am willing to say that it does not if you have looked into it.
Q. Looking at the reports you have furnished them, what were your total receipts; according to these receipts—reports that you have filed from all sources, except bonds and bills payable?

A. $3,739,286.46.

1326 Q. And from bills payable, how much? From bonds and bills payable how much? Are your receipts, those bonds and bills payable, outstanding now, or outstanding at the date of that?

A. $645,000 were bills payable.

Q. Bonds?

A. Those bonds $110,000, at the time you mention.

Q. Making $755,000: Now what were your total disbursements, including dividends and extensions and improvements during that period covered by your statement in your hand?

A. I presume that is shown by this statement here, $2,141,649.11.

Q. What were your extensions during that same period?

A. At that time, March 31st, 1898 $859,608.17.

Q. And what was the amount of dividend declared during that period, covered by this statement?

A. During the period covered by this statement?

A. Yes, you have the dividend statement there.

A. No, that is a different matter, the statement that I furnished at that time——

Q. Up to the 31st of December, 1898?

A. Yes, but these statements here are from March 31st, 1898, and I have a statement of the dividends that was furnished at the same period.

Q. Don't that receipt cover up to December 31st, 1898?

A. Yes sir.

Q. On that same page is a memorandum of dividends——

A. Oh yes.

Q. How much dividend was declared?

A. $1,525,000, dividends up to January 4th, 1899.

1327 Q. Can you tell me where you got the money to pay the $32,970.82, that is a large dividend; the receipts and disbursements——

A. I don't make it that is is large.

Q. I have followed your testimony.

A. The receipts and expenses when subtracted from the other leaves a difference of $1,597,637.35; as shown by this statement submitted; the dividends including the one running into January 1899 is $1,525,000, the difference is $72,637.35.

Q. I took the statements as you read them off; this probably would explain it to you better.

A. Well, this is correct as I have submitted it.

Q. In declaring, or paying your dividends, what do you estimate to be paid first, before you pay your dividends?

A. Well, the operating expenses of the company, including interest on bonds and borrowed money. We have been governed by the construction of the charter as we understood it from time to time; this matter was all investigated at one time, by the city in 1886; which was prior to my time; I have looked it up and I find a record of the fact that the matter was investigated at that time, the pay-

ment of the dividend, and I have the result here prepared to show the report to the city council, which was referred to the committee of public order, Joseph Garidel, chairman and after having the matter in hand for some six months, and having the assistance of the attorney of the city, they brought in a report to the city council which was approved and I have the report here.

Q. That is really outside of the question; I want to know
1328 this; your charter reads that "said company shall not declare or pay any dividends except in cash, and then only out of the net sum annually, or annual receipts, after payment of expenses of operatin- and gradual extensions and the interest on its bonded debt. Do you take into consideration the gradual extensions in declaring your dividends.

A. Yes, up to the time that we commenced these general improvements, as I testified yesterday.

Q. These are the annual reports of your company——

A. Wait a minute if you please. You asked me a question; I am endeavoring to answer it; I testified yesterday that during my administration we commenced a system of extraordinary improvements, over and above the ordinary or gradual extensions; that was commenced in 1892, prior to that time I commenced and brought annual reports back. 1891 we expended $1870. 1890, $7,000. 1889, $3,000. 1888, $3,000. 1887, $14,000, 1886, $3,000; this would cover, as I understand it the ordinary extensions; that runs back to 1886; it was after that time that I was president of the company. It goes back to 1886 when this examination by the city council took place that I referred to.

Q. You came in in 1887?

A. I came in in 1888; I was a member of the company in 1887, but I was president in 1888. Take the four years prior to this examination, which is embraced in my administration, the entire ordinary extension expenses would be less than an average of $5,000 a year; that is shown by the annual reports; then we commenced a system of improvements on the whole plant and we did not take into consideration then what would be the ordinary or gradual extensions, from the fact that we were making extraordinary extensions, as has been explained in my testimony; that commenced during the administration of Mayor Shakspeare and
1329 continued until the end of the Fitzpatrick administration, when we spent nearly $400,000 on the plant.

Q. Mr. Craig, the extension and improvement account of your company, does that show—embrace only what you have spent in extending pipes, as far as you know.

A. I presume it does with the exception that credits have been made when we sold any material, or sales were made of such property as would properly belong to that account.

Q. I ask you to look at that account and see if there are any credits for material sold, or anything of that kind credited to improvement and extension account.

A. I think the full report will show that.

A. It does not show that.
A. It shows the credits for boilers, etc., sold.
Q. They were credited to expense account.
A. Credited to expense account?
Q. They are credited to miscellaneous receipts.
A. You said expense account.
Q. You didn't reduce the extensions and improvement account at all; among other things you have offered a statement of $859,000 spent in twenty years for improvements and extensions.
A. That shows the way the account stood at the end of the year which is March 31st each year from the time the plant was bought by the company in 1878, up to that date. Now, as to the details of that, I don't think you ought to make me go over the whole twenty years and explain.
Q. I want to get out of you the admission, which is true, that your improvements and extensions account, as it stands, on the books, represents all the extensions that you have put under ground since the company was organized.
A. Well it shows for itself; I offered it as representing the
1330 state of the account at those various periods, and when summed up it amounts to the figures given.
Q. In figuring your dividends in each year for instance, where you only spent two or three thousand dollars for extensions, would you consider that as part of the permanent improvements, or as part of the gradual extensions?
A. Well, the gradual extensions; if you would take these years that I have offered, for instance, you will find that we had a surplus each year.
Q. Suppose that we take the year 1889; here is your book.
A. No, I cannot handle that book as well as I can this memorandum.
Q. Take the year 1889, you have your receipts according to your full report of $177,851.
A. 1889?
Q. Yes, $177,851.
A. Receipts and expenditures $101,000.
Q. How much did that leave for a dividend?
A. That would leave $72,000.
Q. How much dividend did you declare?
A. Declared 80. But now, Mr. McLoughlin, I testified yesterday that there were the sources of this; that we had a considerable surplus over and above the gradual extension and all of the expenses; I would like to have that document, if you please; I thought I had a copy of it, I can't call it by number, it is on profit and loss account; it is a little memorandum I thought I had a copy of, showing that during the years prior to this statement that we had a surplus for various years; probably out of 12 the surplus was excessive for eight years, and something under for the other four.
The surplus amounted to a sum much larger than did the
1331 deficiency. Now if you would take each particular year and question me on it, I am willing, but if you take out——

Q. I was going to take them; I start now with 1889, that was the first year after you had been in.

A. If I can get that first statement, submitted here yesterday, I can answer the questions intelligently.

Q. The idea you mean to convey is that you had a surplus carried over from preceding years, and you used a part of the surplus to pay the dividend, in years where a dividend was declared?

A. Yes, the board of directors were guided by the statement of the profit and loss account as it was submitted to them and when this annual statement was made by the book-keeper he would lay this account before them and you will find that the profit and loss account shows that each and every year we had a greater amount then the dividend; of course that was made by this accumulation of surplus I have mentioned, and that is what I am trying to give you. I would like to have the profit and loss account which has been submitted in testimony and I can refer to that. There is not any year of the twenty, since the purchase of the plant of the city but what the profit and loss account shows a surplus over and above the dividend declared——

(Mr. Kruttschnitt hands witness statement—profit and loss account.)

Now, if you will ask me about it I can show you how each year stood, Mr. McLoughlin; I think I have the documents here with me.

Q. Just take your administration first or better begin from the beginning.

A. November 1879 down to 1898, profit and loss account before me; it was submitted in evidence and I have it here now. In 1879 there was no question of the dividend being earned.

1332 Q. All your earnings that year warranted the dividend you declared, so there is no use questioning you on that, unless you want to explain that it was—now take the second year.

A. The way this reads, Furnished by Mr. McMurdough, secretary of the company, of date April 9th, balance after deducting extensions and dividend, left in the profit and loss account $65,308.85.

Q. Let us take the revenue of the years.

A. I have not the revenue before me.

Q. I thought you had that statement.

A. No, I have the statement of profit and loss account (counsel hand witness receipts and expenditures account marked Craig No. 2).

A. Have no receipts for that year, 1880.

Q. What was amount of profit available for dividend purposes?

A. That is a long time ago and I could only tell you from the way——

Q. According to the statement that you furnish, the difference between your receipts and disbursements, what was it?

A. Well, the receipts was $91,000, as against $43,000.

Q. That left $41,000, didn't it?

A. Forty-eight.

—. What was your dividend that year?

A. Fifty thousand.

Q. You paid that deficiency out of the profit and loss account that you carried forward, that fifty-odd thousand that was on the year before?

A. Now Mr. McLoughlin; you ask me about a thing that occurred twenty years ago; it is just twenty years now; I can only submit the documents to you; Mr. Toby was president at that time and he will come here, if you send for him. The same thing came up—a year ago, you went over this; we met at the examination before the committee when the dividends were reported down to a cer-
1333 tain period, March 31st, 1898, when they amounted to $1,440,000 as compared with receipts of $3,546,000, and expenditures $1,987,000 the difference between income and expenses was $1,558,000, dividends paid $1,440,000, that left a surplus at the time of $118,000 on the whole twenty years. Taking out the $40,000 that was lost on the filter plant we bring it to $78,000, which we claim would cover the gradual extensions from time to time.

Q. How much do you consider the amount you have spent in gradual extensions from the beginning of the plant to date?

A. In gradual extensions I suppose the amount—the average would be $5,000 a year, taking out the years when the extraordinary extensions were incurred; I have so figured. Now, coming down to 1892 when we commenced these extraordinary extensions they were hardly finished at the time this investigation commenced; we put in some plugs and some mains even afterwards, in late years; I have this memorandum now; I am not trying to evade any of your questions here, you wanted the information I have it now.

Commencing with the year 1886, which was prior to my time, the year 1886, the net revenue was $91,000 and the dividend paid $80,000, there was a surplus of $11,300; in 1887 there was a surplus of $5,320; difference between revenue and expenses.

Q. Right there in 1887, you charge up, in order to arrive at that $5,320, you charge the entire $14,242 of extensions to permanent improvements?

A. Yes sir. As I said, that is a little prior to my time; I have not gotten to the year I took charge; but I think that interpretation is correct. Now, to continue, for 1888 the net revenue—after substracting the net revenue from the income, was $98,000. We declared a dividend of $80,000. In 1889 the net revenue
1334 was $77,000 and there was a dividend declared of $80,000.

Q. But they had $3,465 of extensions *Q* that year?

A. Yes sir.

Q. If that had been taken out, before you paid your dividend, you would have been about $2,000 short of that, wouldn't you?

A. Yes, that year, I take it for granted the directory did not look carefully into the matter, as you are looking now; but having had a surplus carried over from the three previous years of $33,000, we would have been justified in making that dividend from that sur-

plus. Now in 1890 the income was $112,000; the net revenues I mean; after subtracting expenses from the income we had only $80,000 that year, and we again paid $32,000 more; there was a surplus then of $32,000.

Q. And that was including the entire seven thousand that you spent in extensions that year, as a permanent improvement?

A. We could then have paid twenty-five in addition to the eighty; we could have paid one hundred, but we didn't. In 1891, after subtracting the expenses from the income the difference was $83,000; we paid $80,000. In 1892 the net income, after subtracting expenses from the income was $95,000, we paid $80,000.

Q. In that 1892, in order to arrive at that you had to include the entire amount spent for extensions, didn't you, $16,400.

A. Perhaps so; we had fifteen to do it with, we would have been a little short on that basis, but employed the surplus of the years preceding; we had a surplus for the year preceding of $32,000. In the next year, 1893, we had a net income of $90,000, and we paid a dividend of $100,000.

1335 Q. In 1893?

A. In 1893.

Q. Aren't you mistaken about that; didn't you only pay $90,000 in 1893?

A. I paid $100,000.

Q. I think you are against yourself on that.

A. Well, if it was only $90,000 it would be ten thousand better than I make it.

Q. In that year 1893, your receipts were $203,000, weren't they?

A. Don't make me say that; I haven't it before me; it has just been taken from me; but Mr. McLoughlin, I suppose the main point is—that wouldn't make any difference would it.

Q. The main point, you say that in your dividends you don't calculate your dividends on the net receipts of the year in which the dividends are declared; you also use the surplus which you carry over from other years.

A. No, I say that we didn't at that time figure on that, but I say that that surplus is only available for that purpose and the directors, having that matter before them, when they declared these dividends, they consulted the information furnished them (that would lead them to know whether they could declare or not declare a dividend for that amount) and each year they desire to declare a dividend only from what the profits show, and that was prepared at the time by the secretary and treasurer, showing them the condition, and there being a surplus in the profit & loss account would indicate that we were justified in paying a dividend. We are guided, as I have said before, by the rules that have been adopted and approved by the city in the construction of our charter and if any errors are made it is an error in our construction of the charter,

and I don't know that anybody has ever been damaged by
1336 it, certainly not the city.

Q. In the years mentioned where the receipts were less than

the amount—the net receipts after deducting expenses were less than the amount of the dividend declared, you used a part of the surplus from preceding years to make good the amount of dividend declared?

A. Well, we don't figure on it, but with that fact in view, we would always feel that the surplus account showed it; I wouldn't stop to figure whether it showed the preceding years, as I have done now; neither did the directors; I suppose we thought we were doing the correct and proper thing; we had the wisdom of the city directory there to advice and consult with us, and the documents were shown, and we felt that we were conducting things properly, and we don't go—didn't go into the minutia that you speak of now.

Q. Supposing you take the last year of 1898; what did you have then, including your extensions account.

A. 1898, we had $99,000 after deducting the extensions from the improvements; we paid only one dividend during the year of $45,000.

Q. Didn't you declare another dividend of $50,000 out of the earnings of that year.

A. We declared another dividend of $40,000 on January 4th.

Q. Didn't you declare $85,000?

A. No, it was $45,000, instead of $40,000, January 1899.

Q. You declared $45,000 as profits of 1898 and declared that in 1899; you say you declared a dividend of $50,000 in April 1898—you declared two dividends in 1898?

A. Only one dividend in 1899.

Q. And one on the 4th of January, 1899?

A. On the 4th of January, A. D. 1899, following.

1337 Q. What did those two dividends amount to?

A. The dividends declared in January 1898—$45,000; January 4, 1899 there was a dividend of $40,000 declared and October 9th 1899 another dividend of $40,000.

Q. That is $85,000?

A. No sir, $80,000. On April 7th, 1898 we declared a dividend of two dollars a share, $45,000; and that was the only dividend we declared during the year 1898; we passed a dividend that year and having passed the dividend we charged of $40,000 for the filter plant and paid off some of this borrowed money. We paid off twenty thousand of it and expended $10,000 for the drainage commission; and we expect to make another payment of the bills payable shortly.

Q. Take your 1897 account, and see how many dividends you declared in 1897?

A. In 1897 the net income, after subtracting the expenditures from the receipts, reaches $107,799.

Q. Of that how much was extensions?

A. Extensions and improvements that year?

Q. Yes.

A. That year was part of the year that those—following up, and

closing up the time of the Fitzpatrick administration we had extraordinary expenses, as I have mentioned a while ago; and a great many fire-plugs to put in and extensions to make, that was a part of it—and that was really not a part of what we concluded was ordinary or gradual extensions—you see there were $23,000 that amounted—that is over and above what we concluded—called ordinary or gradual extensions, and was a part of that gradual system of improvements that I testified to here; we had a surplus that year,
1338 after deducting the dividend declared of $100,000, we had a surplus of $7,779; which would have more than covered the average gradual extension of $5,000, as has been described and repeated.

Q. Have you got any account on your books called gradual extensions?

A. No sir, we have no account called gradual extensions; we have only the account submitted there to you; we never anticipated any trouble on that score and only kept it in the form that we have it—that followed the examination previous to this, just as it had been commenced—without thinking of the necessity for any radical changes in the matter.

Q. Do you charge to profit and loss account, or any other account, any percentage for the deterioration of the plant and the engine?

A. No sir; that matter was covered by what we called repairs account and that we kept—I have submitted that in evidence and it is here and it amounts in round figures up to that time, March 31st, 1898, one hundred and ninety-odd thousand dollars, which was spent in keeping the plant in thorough repair, and to bring about the condition that now exists, and compared to what existed when we took charge of the plant.

Q. When you bought the engine you charged it up to account of engine and boilers?

A. Well, we kept an account, as temporary account, new engines and filter account, which has been submitted here, you have seen it; but that subsequently went into the improvements and extensions account.

Q. But you bought the engines and boilers that was charged to improvements and extensions account.

A. Your question would imply we frequently did such things; we bought, during the term of twenty years, three engines;
1339 during my administration we bought two; the first engine mentioned didn't take the place of any old one, if that is what you imply it was called the Knowles engine and we bought it and called it a subsidiary engine, or one that was to assist the plant in furnishing water to the city. We didn't inherit that from the city, as we did the other works; that was charged to improvements and extensions account, I believe direct, at the time; subsequently one of these engines that was turned over to us by the city in the general purchase, in the administration of Mr. Toby had become useless; we bought two engines then to take the place of that

one; the two new Allis engines of ten-million capacity, each we did that to improve the plant generally. This old engine was pretty well worn out, and I think, if my memory serves me correctly, was sold for scrap iron; we couldn't use it for anything else.

Q. When you sold that old engine did you charge that to profit and loss account; the value of the old engine?

A. We didn't consider it of any value when it was taken first, as testified here by various people as to the condition of the plant—it was of little, or no, value then; I don't find any record in the book where it was considered of value.

Q. In your first statement, you have invested capital two million dollars; what did you consider you had to represent that two million dollars?

A. That two million dollars, why it is probably beyond my capacity to explain the beginning of this thing; it is a matter that I wasn't very familiar with; but I understand there was an exchange of bonds with the city, at the price they were then on the market, I believe about $33 for the shares of stock in the water
1340 works Co. The city organized the company and sold the shares in that way, I think, as exchange for her bonds, and they were very much depreciated at the time and consequently the stock was selling at a low value at that time; after the exchange was made, I think, and $33 a share was paid for the stock.

Q. Well then, Mr. Craig, in your report of 1899 you have down invested capital two millions; what was that invested in?

A. That is in connection with the franchises; the plant is simply worth the material in the ground; the property we have and the engines and the franchises. The State and city both tax us on the valuation of $1,635,000.

Q. Then the two millions invested capital does not represent two millions, that is, outside of franchises; it does not represent two millions dollars of material?

A. The material has improved since we took charge of it; we have spent over $800,000 in improving the works, and the good will of the company must be worth something; in ordinary business it is capitalized that way; I have found it so.

Q. When you put down a line of pipe; half a mile, or any distance; to what account do you charge that?

A. That goes to improvement and extension account.

Q. When a pipe was taken up out of the ground and new pipe put in; the old pipe abandoned; what disposition did you make on your books of the value at which the old pipe stood on the books?

Q. We haven't done that with the exception of some cement pipe, that I know of, and that cement pipe was valueless and was really valueless when we inherited from the city, and that pipe being of no value we didn't feel that it required any entry and made none.

1341 Q. You have not discarded any of those that were in use, except the cement pipe that was in use when the city was in charge?

A. I believe, in repairs we may have had to take a joint out, here and there, and perhaps there may have been, during this later work with the drainage commission, I think we have had occasion to take some pipe out; probably abandoned some pipe that was put down by the city; I have not gone into the details of that, because I had no knowledge of the information that you required.

Q. We asked for data and couldn't get it.

A. If you had asked me that it would have been a great pleasure for me to give it to you.

Q. I only want to get in general terms——

A. In general terms, if you please, you are asking me questions that it is impossible for me to get the data; we asked in the beginning of this suit, if you had given us the information that you wanted, it would have been a great pleasure to give it to you.

Q. I simply wanted to know, whether, or not, you have ever charged up anything on your books for the deterioration of the plant?

A. No one cent that I am aware of; we keep the plant in thorough good order.

Q. In 1897, you were president of the company at that time, the city asked you to extend the mains and had located a couple of hundred hydrants; is it a fact that you refused to make that extension for the city?

A. We refused only in cases where, after investigation we learned that they would not pay a ten per cent. revenue.

Q. How did you find out that they would not pay a ten per cent. revenue?

A. By making measurements, and having the officers of the company that were familiar with such matters make investigation
1342 on figures that are submitted to us.

Q. You mean the ten per cent. rev-nue guaranteed by consumers?

A. Consumers and the city. Whereve- the hydrant revenue from the city and the consumers would make 10 per cent., we have undertaken to make the extension, in each and every case.

Q. Do you mean by that a graduated revenue, or estimated revenue?

A. An estimated revenue; as a rule where we would make the calculation as best we could and estimate how much pipe alone, and reinforcement would be necessary to enable us to make good service; how much the extension would cost—we had had some trouble with the city; we had forced the city to budget in advance until she had declined to pay this bill of $4200 that is mentioned here; and having an interview with the officers, especially with the chairman of the finance committee, he told us he would advise us not to make further extensions as the city was not able to pay the rental that we require. We required the city to budget in advance for her requirements for the rental; she did budget for some forty-odd plugs last year, but at the time she budgetted for them she didn't locate them and we had no knowledge at the time where they were to be placed, there-

fore we couldn't participate either by acquiescence or by objecting to the budget; but when afterwards the committee located these plugs, we then made our calculations as I have already outlined and it was discovered that they were not any of them that could be placed, as described by the maps, that would yield the ten per cent. revenue. We declined to put those in, and the city appropriated the budget to other purposes; we didn't complain of it; made no objection to it; her representatives on the board did not, and they were present when the matter was discussed.

Q. Is it your custom, in extending pipes to require a guarantee of ten per cent. before you will extend the pipe?

1343 A. We have always contended that we had the right to do it in each and every instance; we have not done so, sometimes, being desirous of accom-odating people, we have been satisfied with a less revenue.

By Mr. FORMAN:

Q. Sometimes with a great deal more?

A. And sometimes we have more; that is your testimony, but I accept it and make it mine.

By Mr. McLOUGHLIN:

Q. Were all the extensions named in your report; or all the extensions made by you paid for by the company or did you make private consumers pay a part of the pipe?

A. Sometimes when private consumers wanted an extension that would be serviceable to them only, we considered that would be like a private service pipe provided for them, provided for from the streets; they paid for that, and sometimes we paid for it; it depended on the annual income, in some instances we were satisfied with the annual revenue on the investment on our part and we paid for it; in other instances we have exacted pay from the private consumer.

Q. Do you recall any instance where you let the private consumer pay a part?

A. I think it has been testified to in this case that Mr. Maginnis paid for the laying of some pipe.

Q. You don't recall any other?

A. I think so. I don't keep all those matters in my mind; I have other business to attend to besides the water works company I caution and advise with the directors when we have any matter of serious importance; the city has three directors out of seven and we have never had any difficulty with the city representatives, while being in a minority it is a large minority and my ex-

1344 perience has been and I presume it will be supported by those that testify, or should be by members of the council and the city government, if they would come forward, that any suggestions that they have made for the government of these water works has been kindly met with; that their opinions have prevailed.

Q. Do you have any provision for a sinking fund for the payment of your bon-s?

A. No sir, our charter has some thirty years yet to run and I take it if the company is properly managed they will look after that—our successors in office.

Q. The legislature passed an act in 1884 act 56—did your company insert any advertisement of its intention to have that act passed, in any newspaper.

A. I don't remember whether they did or not.

Q. Will you have the matter looked over and let us know?

A. Do you mean that I shall search newspapers for that data?

Q. No, no, on your company's books; have your books looked over at that time.

A. I wouldn't have time to get at it.

Q. I suppose that we can produce a copy of the advertisement.

A. If you can bring it we will admit it.

Q. Do you know whether or not such an advertisement——

A. I don't know; if it has been done I am not aware of it.

Q. We will reserve the right to produce copy of that advertisement, signed by the New Orleans Water Works Company.

By Mr. KRUTTSCHNITT:

Q. Mr. McLoughlin submitted certain figures to you, in cross-examination; the result of which made out an apparent difference between the receipts and disbursements of $32970.82; I would ask you whether you have made any statement showing the relation between receipts and disbursements at the end of the fiscal year, March 31st, 1898?

A. I think there is such a statement in evidence.

Q. No, we have not filed it yet.

1345 A. Well, I have a document there, which is a summing up as it states and has based on the evidence——

Q. Is this the document?

A. Yes, I have submitted the following memorandum, etc.

Q. You have such?

A. Shall I say what it shows?

A. Yes, you might state generally?

A. Witness reads from report.

Q. That is to say the excess of receipts over disbursements of about $14,000?

A. Yes sir, after including the bills payable and the bonds and the improvements and extensions account, with the amount due from improvements and extensions account, which added to this fourteen thousand would make a hundred and four. There is a surplus over and above the bonded debt of $14,000 (fourteen thousand dollars) added to $104,000, it would make $118,000 *dollars;* added to this it would——

Q. That is to say, the receipts exceeded the disbursements other than those for permanent improvement by $118,000?

A. Yes sir, and take the $40,000 that was charged off afterwards to profit and loss for the filter plant would leave $72000 over and above everything.

The document referred to is offered, introduced and asked to be filed in evidence, marked Craig No. 21.

By Mr. McLoughlin:

Q. In this statement you include all dividends declared up to the first day of April, 1898?

A. That is end of the fiscal year you know; now we couldn't make a statement until the end of another fiscal year, that made in 1899, after this suit was begun.

Q. The first dividend declared on April 1st, 1898——

A. We declared only one that year; unless I have the
1346 documents refer- to I couldn't give you the date—declared only one dividend in 1898; I think it was April 7th, as well as I can remember.

Q. It was during the month of April?

A. I think so.

Q. During the month of April, you declared a dividend of about how much?

A. Only one for that year, I think it was $45,000.

Q. And you had $14,000 surplus?

A. We had $118,000 surplus.

Q. So taking the figures, would have left a balance of $14,175.

A. There should be added to that the improvements and extensions account; we had $118,000 surplus; you can take from that the forty thousand if you please, and that would leave $72,000.

Q. Were those figures taken from your annual reports?

A. Yes sir.

Q. So that the reports which are in evidence can be used to check this over?

A. Yes sir.

Mr. Earl *having* produced the water-works manual in relation to which he testified, etc., which is now offered in evidence, with the Weston tables of friction, on behalf of defendant. The State reserving the right, before the argument, to procure duplicate copies and introduce them, and will file such duplicate copies.

Albert Baldwin, sworn for defendant, deposes and says:

Direct examination by Mr. Kurttschnitt:

Q. You live in this city?

A. I do.

1347 Q. Have for many years?

A. Forty-one years.

Q. What is your business?

A. Merchant—and in the bank.

Q. What official connection with banking or other corporation do you hold?

A. I am president of a national bank.

Q. The New Orleans national bank?

A. Yes.

Q. Connected with the directory of any other corporations?
A. Yes, the A. Baldwin Company, Limited.
Q. And New Orleans Water Works Company?
A. New Orleans Water Works Company and some others.
Q. How long have you been a member of the board of directors of the New Orleans Water Works Co.?
A. Well, I think for 15, 16 or 17 years, without knowing the precise date, I think in the early eighties.
Q. You were at one time president of that company?
A. For a short period, yes; a year or two perhaps.
Q. I believe that was just prior to Mr. Craig's incumbency, wasn't it?
A. No, I think Jimmy Houstin was president after myself.
Q. I don't know how long you were president, exactly?
A. Well I think a year or two; a year or two years; it was only a short period.
Q. But you have been on the board of directors, ever since?
A. Yes sir.
Q. Mr. Baldwin, are you familiar with financial matters generally, about the floating of bonds?
A. Oh I know something about it, of course, the same as many others.

Q. Do you know the fact that the New Orleans Water Works
1348 Co. has issued bills payable, at different times in the past few years up to an amount which has run as high, I believe as $110,000, as the maximum; do you know of that?
A. I am aware of it, yes.
Q. Would you state, whether, or not the issuing of those bills payable was more, or less advantageous than an emission of bonds by the water works for a like amount?
A. Clearly more to the interest of the owners of the company then it would have been to issue bonds.
Q. Will you state why?
A. Because in borrowing they would borrow a certain amount of money—only the requirements; whereas if you issue bonds you would get the money for them and the money would lie on hand and you would be paying interest on that amount of money and from an economic standpoint it would be very much better to borrow the money.
Q. Couldn't you borrow on the bond issue of five, ten or fifteen or twenty thousand dollars, from time to time, as you might need it?
A. Yes, on the bonds issued with the bonds on hand and place them as collateral.
Q. Could you as collateral to begin with?
A. Oh yes.
Q. Could you sell the bonds; suppose you wish to issue $125,000 worth of bonds could you sell them advantageously in lots of ten or fifteen thousand at a time?
A. No.

Q. The result of your experiences is that you state they couldn't do so?

A. They could not, advantageously.

Q. What is the usual way of placing a bond issue, how are they usually disposed of?

A. Disposed of as a rule in block; possibly making offers.

Q. Which is the way to get best results?

1349 A. In block.

Q. By the system of issuing bills payable, what are the advantages the water works Co. has thereby derived?

A. They simply had no money on hand lying idle, and as the requirements were they borrowed the money, twenty thousand or ten thousand; whatever it might be.

Q. Did the bills-payable account remain stationary, or always increasing, or how?

A. No, I think it was being reduced as the money came in; as the money came in, in place of leaving it in the bank they would pay on account of the loan and reduce the notes and just pay interest on what they needed.

Q. Have you ever known a large business Mr. Baldwin, which at any period would absolutely balance, which would have no debts at all outstanding?

A. I have never known of any corporation that I have been identified with, or have had any knowledge of, that didn't have an indebtedness at some period during the year, and naturally if they had receivables on hand;——

Q. You are a director in this corporation; have you any interest in it?

A. I have.

Q. How much of the stock do you hold?

A. I think it is 565 shares.

Q. How long have you held that amount?

A. I have held them for a great many years, more or less; I have held that amount, except for a few——

Q. What I wanted to fix is whether you held approximately that amount when this suit was instituted in January, 1899?

A. Oh yes, I held it all

Q. As a director have you taken an active part in the management of that corporation?

A. Well fairly; as much as the directorship of any corporation.

1350 Q. Have you looked into its affairs and considered the contemplated action to be taken by the president and other officers of the corporation?

A. I have.

Q. How has that action struck you, as a man of business; what judgment did you form of those actions?

A. Well, I have been identified with probably fifteen or twenty corporations during my business experience and I say with great satisfaction that I have never known of any management from an

ecomonic standpoint, or from the standpoint of good judgment that would excel the management of the water works company, and especially is that the case, since the advent of Mr. Craig.

Q. And you have been a director through the whole of his administration?

A. Yes sir.

By Mr. McLoughlin:

Q. Do you know whether it is the custom among corporations similar to this to charge up annually something for the deterioration of plant?

A. Oh, is, and is not; there is no fixed rule for it.

Q. Do you think there is any deterioration of plant in this company, since you have been in it?

A. I think it has been increased all the time in value.

Q. The pipes are worth more every year?

A. I think the franchise; it was a pile of old junk years ago and I think the management has been such that the value of it, as shown by the price of stock, has increased; I know of an instance when the stock was sold at 128 a share. When I was first identified with the water works Co. I bought stock at 35—it has gone from 35 to as high as 115 or 120.

1351 R. E. Craig, recalled.

By Mr. Kruttschnitt:

Q. When you were on the stand before, you were asked whether you had any sinking fund; you replied that you didn't; that the plant was kept in perfect order; I would ask you if the extension of the mains account includes amongst its pages all amounts spent for repairs upon the plant?

A. No sir, that account was kept separately and independently from all of the others; that amounts to over $200,000; it is in evidence here; I have forgotten the exact figures that was kept entirely to itself and is charged *of* each year to profit and loss account, as one of the expense accounts of the business.

Q. And that is entirely outside the extensions and improvements account?

A. Yes sir; and it has averaged ten thousand dollars a year for the past twenty years.

Q. You were asked what represented the capital of this corporation; do you know what was paid by the corporation to the city, for the plant?

A. Paid twenty thousand—the city sold it to us for twenty thousand—two million dollars—twenty thousand shares of the par value would be two million dollars.

Q. Two million dollars?

A. Yes, 20,000 shares, at $1000 a share, or the par value; and that was what was charged and that was what we paid.

By Mr. McLoughlin:

Q. But it was only $33 a share at that time?
A. The bonds were worth $33, also.

By Mr. Kruttschnitt:

Q. I understand you to say that the payment was in bonds of the city?
1352 A. Yes sir.
Q. All the city bonds at that time, were pretty low, weren't they?
A. Yes sir.
Q. What are they at today?
A. They are about 109; and they were then at *the* 33 cents on the dollar, the bonds' par value was $100, just as the stock of the company was $100, and we gave the bonds for the stock.
Q. Do you know what rate of interest those bonds bore?
A. I do not.

By Mr. McLaughlin:

Q. Was there a great deal of floating debt of the city of New Orleans and unpaid interest on that account probably exchanged?
A. Probably so; maybe so; she owed dollar for dollar for those debts,—same thing.
Q. Debts of the city?
A. Debts of the city, I qualify it that way.

By Judge Beckwith:

Q. The plant is comparatively larger and in better condition is it not, than it was at the time it was acquired from the city?
A. Yes sir we have testified here that the plant is in better condition; its milage of pipes is doubled and the pressure on the mains is about double, and the character of the mains in the ground has been kept in excellent order; all deficient pipe has been repaired and everything now in good order; fine engines and boilers.

Defendant New Orleans Water Works rests here.

1353 Civil District Court.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. —.

Testimony for intervenor, The Board of Liquidation of the City Debt, taken by consent in the city attorney's office April 3rd, 1900, all objections to manner, form, and time of taking the same waived.

JAMES J. MCLOUGHLIN.

By Mr. MILLER:

Q. Mr. McLoughlin, is there any resolution or ordinance of the city council directing you to make the claim set up in the pleadings of the city against the board of liquidation, for the ownership of the shares of water-works stock held by it, and the dividends accruing thereon since 1890?

(To which respondent, as assistant city attorney, objects on the ground that it is too late now, and even if it were in time, that The Board of Liquidation, intervenor herein, cannot object to the appearance of the city herein, and cannot question the motives of her attorneys in the preparation of her pleadings.)

Reserving these objections, respondent says:

A. In acting in this suit I have acted under the instructions of Samuel L. Gilmore, Esq., city attorney, and he is the proper person to answer such questions.

Q. In making the claim described, you have done so under the instructions of the city attorney, your superior officer?

A. Same answer.

1354 Civil District Court.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 58345.

Testimony for intervenor, The Board of Liquidation of the City Debt, April 3rd, 1900, all objections to manner, form, and time of taking the same waived.

Mr. SAMUEL L. GILMORE.

(Witness excepts to the right of intervenor to question the authority of the city attorney to represent the city in this litigation, or to make any claim he may deem proper in answer to the petition of intervention.)

By Mr. MILLER:

Q. In the case of The State *vs.* New Orleans Water Works Company, in the supplemental answer of the city to the intervention of the

board of liquidation, a judgment is asked for against the board of liquidation, in favor of the city, for the shares of water-works stock held by it, and all of the dividends accrued thereon, except such as have been used to provide for debts or contracts of the city prior to the adoption of act 110 of 1890; was the city attorney directed or authorized by any ordinance or resolution of the city council to make this claim?

A. No.

Q. Were such instructions received at the city attorney's office from the mayor?

A. No.

Q. Were instructions given by the city attorney to Mr.
1355 McLoughlin, assistant city attorney, to make this demand?

A. No; I assigned to Mr. McLoughlin, assistant city attorney, the duty of taking care of the city's interests in the water-works litigation; I gave him no specific instructions; it is my custom, when a case is assigned to an assistant city attorney, to leave the conduct of the case entirely within the discretion of the assistant city attorney, and unless I am specially requested by the mayor or the council to take a particular course, I never make suggestions to the assistant city attorneys, unless at their instance in consultation.

Bonds Redeemed by the Issuance of Constitutional 4% Bonds.

	Principal.	Interest.
Consolidated bonds acts of 1852	498,000	9,960
Certificate do. act 58 of 1852	1,071,000	21,420
Gaines judgment	931,000	9,310
Judgment bonds act 7/1884	1,100,000	11,000
Seven per cents of 1869 act of 1869	540,000	16,200
Sixes of 1882 act 58/1882	4,503,000	90,060
Sevens of 1870 acts of 1870	352,500	10,575
Gaines judgment	3,000	150
Water-works bonds acts of 1867	10,000	500
	$9,008,500	$169,175

Endorsed: Statement of T. J. Wolfe Jr., secretary board of liquidation of the city debt, called for by and promised to intervenor Board of Liquidation.

Civil District Court, Parish of Orleans, Div. "E."

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. —.

1356 Testimony for intervenor in above entitled and numbered cause, The Board of Liquidation, taken in open court this 17th day of January, A. D. 1900, before the Hon. George H. Theard, judge.

Present: Messrs. B. R. Forman, Jas. J. McLoughlin and C. C. Frederichs, for plaintiff. Messrs. J. R. Beckwith, E. B. Kruttschnitt, & E. Howard McCaleb, for defendant. Branch K. Miller, Esq. for Board of Liquidation.

T. WOLF, sworn on behalf of intervenor, deposes and says:

Counsel for plaintiff object to any evidence on the part of the Board of Liquidation, because it has no legal interest in this controversy to oppose the demands of the State.

By the COURT: The evidence is received subject to the objection, to be hereafter determined on the merits.

Direct examination by Mr. MILLER:

Q. What connection, if any, have you with the board of liquidation?

A. I am its secretary.

Q. How long have you been secretary of the board?

A. Since its organization in 1880.

Q. What connection, if any, did you have with any part of the government of the city of New Orleans, prior to the organization of the board of liquidation?

1357 A. I was secretary of the commission of consolidated debt, the predecessor of the board.

Q. What is the difference, if any, between the class of duties performed by the commission of the consolidated debt, and the board of liquidation of the city debt?

A. None.

Q. About the same?

A. About the same.

Q. Does, or does not the board of liquidation own any shares of stock of the water works Co.?

A. It does.

Q. Have you certificate of stock with you?

A. Yes sir.

Q. Let me see it?

A. Witness produces document called for and counsel for board of liquidation offers, introduces and asks to be filed in evidence certificate No. 5972, of the New Orleans Water Works Company; cer-

tifying that the board of liquidation of the city debt is entitled to three thousand shares, of the capital stock of the company.

Also offers, introduces and asks to be filed in evidence another certificate No. 927, certifying that the board of liquidation is entitled to 927 shares; the first certificate being dated March 3rd, 1887 and the second July 11th, 1884.

Q. What dividends, if any, has the board of liquidation been receiving upon those shares since it has become the holder of those certificates?

A. What dividends?

1358 Q. Yes. Average it, so much a year about.

A. About five per cent.; now it has been cut down.

Q. In money, about how much?

A. It has averaged $15,000 a year.

Q. Do you know of an issue of bonds made by board of liquidation under the authority of article 313 of the present State constitution?

A. Yes sir.

Q. How many such bonds have been issued?

A. Two hundred and twenty thousand, so far.

Q. How many, if any, is it probable will be issued under the authority of article 313?

A. The limit is two hundred and fifty thousand.

Q. Is there any question pending the settlement of which may require the further issue of such bonds?

A. I don't understand your question.

Q. Is it probable, or not, that there will be other bonds issued?

A. Of this issue?

Q. Of that issue.

A. Oh yes, there will be fifteen or twenty more, because there are judgments outstanding.

Q. You mean fifteen or twenty thousand?

A. Yes sir.

Q. By the terms of article 313, the city is directed to turn over to the board the surplus revenue of the years from 1879 to 1895 inclusive, to take care of those bonds?

A. All surplus from the years 1879 to 1895 dedicated to pay those bonds.

1359 Q. How much have you received from the city on that account?

A. $12,853.

Q. When did the first installment of interest become due on the floating debt bonds, issued under that article?

A. April, 1899.

Q. Did you, or not, in April 1899, have other money than the surplus spoken of by article 313 to meet that interest?

A. I did not.

Q. Was the interest paid?

A. It was.

Q. Where did you get the money?

A. I drew it out of the general funds of the office; the bank advanced it.

Q. Was it subsequently reimbursed?

A. Yes sir.

Q. From what sources?

A. From these taxes and from the revenues of the water-works stock.

Q. The interest due on April 1st, 1899 was paid more or less out of the water-works dividend than out of the taxes?

A. More out of the water works.

Q. In about what proportion?

A. Well I don't know; I should say about one-eighth at that time.

Q. What is one-eighth, the taxes or the dividend?

A. Well there was $8800 due and I suppose we had about $7000; we took about a thousand—I don't remember the exact figures.

1360 Q. You took the thousand from where?

A. Just drew it right out of the bank, when I got the dividend, I deposited it to the credit of that account.

Q. To what extent did the water-works dividend contribute to the payment of the April interest?

A. About one-eighth.

Q. The next interest upon those bonds became due, when?

A. October.

Q. Was it paid?

A. It was.

Q. Out of what?

A. I think the most of it the taxes and a small proportion out of the dividend; the bulk of the second interest was paid from the city taxes.

Q. What taxes?

A. The revenue of 1879 to 1895 inclusive.

Q. Out of that surplus?

A. Out of that surplus, yes sir.

Q. When does the next installment of interest become due?

A. April, 1900.

Q. What have you now, if anything on account of certificates to meet that interest?

A. Nothing but water-works money.

Q. You have been connected with the financial department of the city of New Orleans, for how long?

A. Twenty-eight years.

Q. Have you had an opportunity to notice the amount of revenue actually collected from the taxes during that period?

1361 A. Yes sir, I am familiar with it.

Q. From your knowledge can you estimate the amount that will finally come to the board of liquidation, out of this surplus?

A. How?

Q. Can you estimate the amount that the board will realize from this surplus in the future?

A. Very little, because there are claims that are outstanding. We won't get any more now until those claims are paid.

Q. Have you any idea of the amount of those claims?

A. No.

Q. Can you estimate the amount that will be received from the surplus, after outstanding claims against it are paid?

A. I don't think anything; I think the claims, with interest, will more than absorb the taxes collected. That is only—I have no means of knowing that.

Q. At the present moment, what prospect is there of obtaining any money, otherwise than from the water-works dividend, to meet the interest on those floating-debt bonds?

A. None whatever.

Q. You have knowledge of the statute by which the board of liquidation was organized and the statutes which govern its conduct? You know all about that don't you?

A. Yes sir.

Q. You remember act 133 of 1880?

A. Yes sir.

Q. Were any bonds issued under that act?

A. No sir.

1362 Q. What was the earliest time, after the passage of that act of 1880, that any bonds were issued by the board of liquidation?

A. 1882.

Q. Those were the bonds that were known as the extension six per cent. bonds.

A. And also certificates to pay coupons.

Q. The obligations that you retired by the issue of the extension bonds, were of what character?

A. By the extension bonds?

Q. Yes.

A. All kinds; but mostly consolidated bonds.

Q. That was the consolidated bonds of 1852?

A. 1852.

Q. Were there or were there not arrearages of interest on other bonds?

A. Yes sir.

Q. What others?

A. What other kind of bonds?

Q. Yes?

A. Well every kind of bond that was not funded into premium bonds, which amount to about twelve million of dollars.

Q. Were there many of the six per cent. extension bonds issued?

A. Not six per cent. but six per cent. coupons and those present extensions.

Q. All the bonds bore six per cent., issued under the act of 1882?

A. Yes sir.

Q. What was the entire bond issue, under the act of 1882?

1363 A. Well, the amount to, I should judge, between ten and twelve million dollars.

Q. You can furnish exact statement of that, can you not?

A. Yes sir.

Q. Will you please make up that statement, by itself, separate from anything else and give it to us as soon as you can?

A. Yes sir.

Q. What became of the six per cent. extension bonds; are they now outstanding?

A. No sir.

Q. All taken up?

A. Yes sir.

Q. How?

A. By payment from the sale of four per cent. constitutional bonds.

Q. Is it correct, or not to say, that all those bonds were retired with funds derived from sale of four per cent. constitutional bonds, issued after the constitutional amendment of 1890?

A. Yes sir.

Q. The city may still owe, in the form of the present bond; everything that it owed under the six per cent. bond of 1882?

A. Yes sir.

Q. Will you furnish the court with a statement showing what I will detail to you now—a full statement of all constitutional four per cent. bonds issued and outstanding at present?

A. Yes sir.

Q. Statement showing the amount due on contracts made by the city of New Orleans for works of permanent public improve-

1364 ment, payable under sections eight and ten of the act of 1890.

A. Yes sir.

Q. Have you any record, or are you advised of the amount of drainage bonds, issued by the drainage commission?

A. No sir.

Cross-examination by Mr. McLoughlin:

Q. How many bonds issued prior to 1890 are now outstanding?

A. Prior to constitutional bonds?

Q. Yes, outside of premium bonds?

A. 117 gold; ten street improvement and one fifty-dollar Carrollton.

Q. How much city park tax have you collected since the park bonds were retired?

A. I have no idea.

Q. Will you furnish a statement?

A. That park bond account is still overdrawn; we owe the money to that account yet, on the books.

Q. Then the park bonds didn't pay?

A. They have paid—not from the taxes——
Q. But they were paid?
A. They were paid, yes sir.
Q. All bonds, except premium bonds, issued prior to 1890 have been paid in full, except those you name?
A. Except those I mention, yes.
Q. How many dividends have you collected from water-works stock since you owned it?
A. All those due, I don't remember the figures.
Q. You will furnish that statement?
A. Yes.

1365 Q. How much money have you collected from the old interest taxes since 1890?

A. I don't remember the figures.
Q. Will you furnish that statement?
A. Yes.
Q. Do you know from your knowledge of the books, whether or not, the sum of all those interest taxes, water-works dividends, park taxes, and all other taxes that you issued prior to 1890, or whether the sum of it altogether, exceeds the sum of $118,000?
A. Since 1890?
Q. Yes.
A. No, I don't think it amounts to that.
Q. Including the dividends of the water-works stock.
A. Oh, including the dividends?
Q. Yes.
A. I don't remember the figures.
Q. You will furnish that statement?
A. Yes.
Q. When you issued the six per cent. extension bonds, didn't they attach the old bond cancelled to the new one?
A. Yes.
Q. When you retired those six per cent. bonds—extension bonds—you paid that absolutely, didn't you?
A. Yes sir.
Q. They were cancelled?
A. Yes sir.
Q. So consequently you didn't pay them with the new series?
A. No, I paid them with money.

1366 Q. From the funds that you derived from the water-works dividend, to what account did you credit that in your books?

A. I gave one-half to schools and one-half to permanent improvements, except since April and then he told me to turn it over to the floating debt.
Q. But up to the time of the institution of this suit you always divided it one-half to schools and one-half to permanent public improvements?
A. Yes sir.
Q. You considered it a surplus?
A. A surplus.

Q. How much surplus per annum did you have from the one per cent. tax after paying all that was called for by act 110 of 1890—by the premium bond act?

A. About $500,000.

Q. What did you do with that?

A. I gave one-half to schools and the other half goes to drainage commission.

Q. Are those shares of water-works stock or the revenue from them, needed for the purpose of paying interest on any of that consolidated debt?

A. No sir.

Q. Are they needed for the purpose of taking care of any of the $118,000 of bonds that you have, prior to '90?

A. No sir, there is another fund for that.

Q. Is there any fund on your books to which any or all of this dividend or this stock is dedicated, as far as you know?

A. No sir.

1367 By Mr. MILLER:

Q. Suppose, instead of crediting water-works dividend to the surplus, you put in the fund which went to take care of the bonds, what would be the difference in the result, in the books, any?

A. How do you mean?

Q. You say that heretofore, that is prior to the 1st of April, 1899, when you received the water-works dividend you put it to the credit of the surplus, which you dedicated, one-half to schools and one-half to improvements?

A. Yes sir.

Q. Suppose, instead of doing that, you reversed that process and put that water-works dividend in the funds used to take care of the bonds?

A. Well, it did go into the fund to take care of the bonds; it was the same thing.

Q. I know you did, but I want you to explain it, whether it would make any difference in the end?

A. No.

Q. It would not?

A. No.

Q. Crediting the bond with the surplus?

A. That is what I did.

Q. With the dividend?

A. With the dividend.

Q. To create a corresponding surplus due—out of the taxes?

A. Yes sir.

Q. Instead of that you did credit the water-works dividend to the surplus direct?

1368 A. No, I credited the tax on that year with the dividend, which was the surplus, the same credit that I got from the taxes prior to 1899; I got just the same as if I got it from the taxes.

Q. Suppose you got no water-works dividend and consequently

would have nothing to credit anywhere; what effect would that have on the surplus, increase or diminish it?

A. Oh, diminish it.

Q. Is it anything more than book-keeping without changing the result, the way you have been making these entries?

A. No. It makes a difference now, because these new bonds are separate entirely from the constitutional bonds. Now it makes a difference, about crediting that amount; heretofore it did not, because that other account always had plenty of money.

Q. As you receive the dividend now, you credit it to the fund which is to take care of the floating of bonds?

A. Yes sir.

Q. Now the way the park bonds have been paid—how have they been paid?

A. By money advanced from the premium bond account.

Q. The premium bond account goes back some way, does it not?

A. No, I am still collecting the park—it is overdrawn on the books.

Q. You are crediting the premium bond account for such collections as are made on account of the park bonds?

A. No, I am crediting the park bond still with the park taxes, but there has never been a sufficiency of park taxes collected to pay those bonds; so I took it out of the premium bond account.

1369 Q. What I mean to say is this, are you, or are you not, reimbursing the premium bond account out of the park taxes?

A. Yes sir.

Q. The amount which the premium bond fund advanced to take care of the park bonds?

A. Yes sir.

Q. That is what it was, in every-day parlance?

A. Yes sir.

Q. And you the- say the park bond account is a debtor to the premium bond account?

A. Yes sir.

Q. Can you furnish statement as to how much the deficiency is?

A. Very slight; nearly all paid up, does not amount to two hundred dollars.

Q. The funds required to retire and take up the six per cent. extension bonds were derived from sale of constitutional bonds, issued under constitutional amendments of 1892?

A. Yes sir.

Q. And the constitutional bonds so sold are now outstanding obligations of the city?

A. Yes sir.

Q. So that, that money is due?

A. The city owe the bonds.

Q. You say those other bonds, being the new bonds are practically——

A. Which, the floating debt?

Q. Yes, that the floating debt, the six per cent. bonds, the
1370 obligation which was behind the six per cent. bonds, now exists in the form of four per cent. constitutional bonds?
A. Well, the proceeds have been paid the other.
Q. You sold one bond to get money to pay another?
A. Yes sir.
Q. And the old one you sold is still unpaid?
A. Still unpaid.

By Mr. McLOUGHLIN: The city offers in evidence to be produced and filed that part of the reports of the comptroller of the city, embracing the annual reports of the board of liquidation of the city debt, as far back as its organization with the reservation made to Mr. Miller to submit this evidence with other that he may find necessary, reserving to counsel for plaintiff the privilege of cross-examination.

Counsel for intervenor, offers, introduces and asks to be filed in evidence all the evidence taken for the defendant company.

It is agreed that the certificates of stock offered in evidence, be taken from the record and retained in the custody of the board of liquidation, and it shall not be necessary to keep the same in the transcript.

Counsel for intervenor, also, offers, introduces and asks to be filed in evidence act 133 of 1880; #67 of 1884, No. 58 of 1882, No. 128 of 1890, No. 110 of 1890 and constitutional amendment set out in proposition contained in said act; all to be read from the books. Also article 313 of constitution of 1898.

1371 *Certificate.*

STATE OF LOUISIANA:

Civil District Court for the Parish of Orleans.

I, William B. Murphy, deputy clerk of the civil district court for the parish of Orleans, do hereby certify that the foregoing eleven hundred (1100) pages do contain a true, correct and complete transcript of note of evidence and testimony, forming volume 2 of the transcript herein and contains all the evidence adduced upon the trial of the cause wherein State of Louisiana is plaintiff, and The New Orleans Water Works Company is defendant, instituted in this court and now in the records thereof under the No. 58,345 of the docket thereof, division E, the Honorable George H. Theard, judge.

In testimony whereof, I have hereunto set my hand and affixed the impress of the seal of said court, at the city of New Orleans on this twenty-first day of November, in the year of our Lord one thousand and nine hundred (1900) and in the one hundred and twenty-fifth year of the Independence of the United States of America.

[SEAL.] W. B. MURPHY, *D'y Clerk.*

1371½ UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

THE NEW ORLEANS WATER WORKS COMPANY, Plaintiffs in Error,
vs.
STATE OF LOUISIANA ET AL., Defendants in Error. } No. 13701.

J. R. Beckwith Esq. Farrar, Jonas & Kruttschnitt and E. Howard McCaleb Esq. for plaintiffs in error.

Walter Guion Esq. attorney general, and Benjamin Rice Forman Esq. for defendants in error.

Samuel L. Gilmore, city attorney, and Arthur McQuirk, assistant city attorney, of the city of New Orleans, for The City of New Orleans, intervenor.

Branch K. Miller Esq. attorney for Board of Liquidation, intervenors and appellees.

Writ of error to the supreme court of the State of Louisiana from the Supreme Court of the United States of America, returnable at the city of Washington, D. C., within thirty (30) days from the tenth (10) day of February, A. D. 1902.

Transcript of Record.

1372 No. 110.

1st April, 1879.

Mortgage.

N. Orl's Water Works Co.
to
Adolphe Schreiber.

B. 176, fo. 130.

UNITED STATES OF AMERICA,
State of Louisana, City of New Orleans.

Be it known, that, on this first day of April; eighteen hundred and seventy-nine; before me, James Fahey, a notary public, in and for the city, and the parish of Orleans, State of Louisiana aforesaid, duly commissioned and qualified, and in presence of the witnesses hereinafter named and undersigned; personally came and appeared:—Messieurs Edward Toby, and Alexander Bonneval, both of this city and respectively the president and secretary of, and herein acting for, the "New Orleans Water Works Company;"

Who declared, that whereas the said "New Orleans Water Works Company," has been duly incorporated under and by virtue of act No. thirty-three of the legislature of this State, passed during the

extra session of 1877, approved 31st March, 1877 entitled An act to enable the city of New Orleans to promote the public health and to afford greater security against fire by the establishment of a corporation to be called the "New Orleans Water Works Company;" to authorize the said company to issue bonds for the purpose of extending and improving the said works, and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water; to permit the holders of water-works bonds to convert them into stock, and to provide for the liquidation of the bonded and floating debt of the city of New Orleans, and of act No. forty-three amendatory thereto passed during the regular session of 1878 and approved on the 26th February, 1878, entitled An act relative to the charter of the "New Orleans Water Works Company, and amending act No. thirty-three of extra session of 1877 approved March 31st 1877;

1373 And whereas section No. nine of said act No. thirty-three provides that the board of directors of said New Orleans Water Works Company shall have power to borrow money for the purpose of improving and enlarging its works and increasing the supply of pure water, and in order to accomplish the said purpose the board of directors of said company was by said act authorized to issue the bonds of said company to an amount not exceeding two millions of dollars in such sums, on such terms and bearing such rate of interest as said board may determine, and the payment of said bonds, in principal and interest may be secured by the mortgage of all the property and franchises of said company, including its franchises to be a corporation, and said mortgage may include the property and franchises of said company, acquired or to be acquired, and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans, shall operate on the property and franchises of said company, wheresoever situated, and shall be and continue a valid and subsisting mortgage until the payment of the said debt secured by it, without reinscription: Provided, however, that no bond shall be issued, or mortgage given without the consent of the council of the city of New Orleans and said bonds shall not be sold or disposed of except on such terms *and* shall be approved by said council of said city;

And whereas in pursuance of said act the council of the city of New Orleans by ordinance No. 4628 adopted at its meeting of the seventh August, 1878, consented to the issuance of said bonds of said company bearing mortgage, provided that said bonds shall not bear more than six per cent. per annum interest, and shall not be sold or disposed of at less than their par value, a true copy of which ordinance is hereunto annexed as part hereof, and is in the words and figures following, to wit:

"MAYORALTY OF NEW ORLEANS,
"CITY HALL, *August 8th*, 1878.

"No. 4628, administration series.

1374 "Whereas section 9 of act No. 33 of the extra session of "1877 provides,

"That the board of directors of said company shall have the "power, in addition to the authority to increase its capital stock, to "borrow money for the purpose of improving and enlarging its "works, and increasing the supply of pure water, and to accomplish "this purpose said board of directors are hereby authorized to issue "the bonds of the company to the amount not exceeding two million "dollars in such sums, on such terms and bearing such rate of in- "terest as said board may determine, and the payment of said bonds "in principal and interest may be secured by a mortgage of all the "property and franchises of said company including its franchise "to be a corporation; and said mortgage may include the property "and franchises of said company acquired or to be acquired in the "registration of said mortgage in the office of the recorder of mort- "gages for the parish of Orleans shall operate on the property and "franchises of said company wheresoever situated, and shall be and "continue a valid and subsisting mortgage until the payment of the "debt secured by it without reinscription; provided, however, that "no bond shall be issued or mortgage given without the consent of "the council of the city of New Orleans, and said bonds shall not "be sold or disposed of, except on such terms as shall be approved "by said city council of said city, and whereas, the board of directors "of the New Orleans Water Works Company has passed a resolu- "tion at the meeting held on the 22nd July 1878, at the office of "the company, No. 47 Camp street, to issue six hundred thousand "dollars of bonds of said company bearing six per cent. per annum, "payable not less than twenty-five years after date, and the pay- "ment of which capital and interest is secured by a mortgage cov- "ering all the property, and franchises of said company, acquired "or to be acquired, including its franchise to be a corporation for "the purpose of improving and enlarging its works, and increasing "the supply of pure water therefor;

"Be it resolved—That the council of the city of New Orleans "hereby approves and gives its consent to the issuance of
1375 "said bonds bearing mortgage as above stipulated: Provided, "that the said bonds—shall not bear more than six per cent. "interest per annum and shall not be sold or disposed of at less "than their par value.

"Adopted by the council of the city of New Orleans.

"August 7th 1898.

"Yeas: Cavanac, Denis, Diamond, McCaffery.

"ED. PILSBURY, *Mayor.*
"THOS. G. RAPIER, *Secretary.*"

"I hereby verify that the above ordinance is a true copy of ordi- "nance No. 4628 A. S. adopted by the city council of New Orleans

"on the 7th day of August, 1878, and that the same has been duly "promulgated in the official journal.

"R. C. MORGAN,
"*Ass't Sec'l'y Council.*"

And whereas the said Edward Toby, and said Alexander Bonneval, in their said capacity of president and secretary of said New Orleans Water Works Company, were authorized to borrow a sum of five hundred thousand ($500,000.00) dollars, for the purposes in said acts contained and set forth, and on the terms therein stipulated, under and by virtue of a resolution of the board of directors of said company, adopted at their meeting held on the 29th January, 1878; which resolution is amendatory of another resolution, adopted by said board of directors on the 22nd July, 1878, true copies whereof are hereto annexed as part hereof, and which said resolutions are in the words and figures following, to wit:

"NEW ORLEANS, *January 29th*, 1879.

"Special meeting of the board of directors of the New Orleans Water Works Company.

"The board met this day pursuant to adjournment of the special "meeting held January 27th 1879.

"Present: Messrs. E. Toby, pres't; Honorable J. W. Patton, "mayor, A. H. Isaacson, ad'r of finance, E. R. Chevally, ad'r of W. "works and public buildings, Paul Fourchy, P. Sala and W. "Washburn.

"On motion of Mr. P. Fourchy duly seconded, the report, plans, "specifications and estimates of Mr. Moses Lane, civil engineer, "were unanimously adopted.

1376 "The president submitted to the board the form of the act "of mortgage which, by resolution passed at the meeting of the "board held July 22nd 1878, he was authorized to have executed, "covering all the property and franchises of this company, acquired "or to be acquired, including its franchise to be a corporation, for "the purpose of borrowing six hundred thousand dollars and issu- "ing bonds bearing six per cent. interest per annum and payable "thirty years after date.

"On motion of Mr. P. Fourchy, duly seconded the amount of the "bonds to be secured by mortgage is reduced from six hundred thou- "sand dollars to five hundred thousand dollars, and with this modi- "fication the form of the mortgage was unanimously adopted, to be "executed as prescribed by said resolution of July 22nd 1878."

"I hereby certify that the above is a true and correct transcript "from the minutes of the company.

"ALEX. BONNEVAL, *Sec'ry.*"

"NEW ORLEANS, *July 22nd*, 1878.

"Special meeting of the board of directors of the New Orleans Water Works Company.

"The board met this day pursuant to the call of the president, at "the office of the Co. No. 47 Camp street.

"Present: Messrs. E. Toby, pres't.

"P. Fourchy, James D. Edwards, ad'r of water works and P. "buildings, W. W. Washburn and P. Sala.

"Absent: His honor Ed. Pilsbury mayor, and J. C. Denis, ad'r of finance.

"The minutes of the last meeting were read and approved.

"On motion duly seconded, the following resolution was unani- "mously adopted.

"Whereas, section 9 of the act No. 33 of the extra session of 1877, "provided, that the board of directors of said company shall have "power, in addition to the authority to increase its capital stock, to "borrow money for the purpose of improving and enlarging its "works, and increasing the supply of pure water, and to accomplish "this purpose, the said board of directors are hereby author-
1377 "ized to issue the bonds of the company to an amount not "exceeding two millions of dollars, in such sums, or such "terms and bearing such rate of interest as said board may deter- "mine and the payment of said bonds in principal and interest may "be secured by mortgage of all the property and franchises of said "company, including its franchise to be a corporation, and said "mortgage may include the property and franchises of said company, "acquired or to be acquired, and the registration of said mortgage "in the office of the recorder of mortgages for the parish of Orleans, "shall operate on the property and franchises of said company, "wheresoever situated, and shall be and continue a valid and sub- "sisting mortgage until the payment of the debt secured by it, "without reinscription:

"Provided, however that no bond shall be issued or mortgage "given, without the consent of the council of the city of New Orleans "and said bonds shall not be sold or disposed of except on such "terms as shall be approved by said council of said city;

"Therefore the president of this company is hereby authorized to "have an act of mortgage executed covering all the property and "franchises of said company, acquired or to be acquired, including "its franchises to be a corporation, for the purpose of borrowing six "hundred thousand dollars and issuing bonds bearing six per cent. "interest per annum, payable in thirty years after date, and the "payment of said bonds, in principal and interest shall be secured "by said mortgage; said bonds to be sold or disposed of, at not less "than par and proceeds used exclusively for improving and enlarg- "ing the works of this company, within the five years limited by the "charter. Said act of mortgage and bonds to be signed by the "president and secretary of this company in favor of Adolphe "Schreiber, Esq. or bearer;

"And the president is hereby authorized to apply to the council "of the city of New Orleans to obtain the approval and consent of "said council as provided for in said section nine of said act No. "thirty-three, of the extra session of 1877."

"I hereby certify that the above is a true copy of the
1378 "minutes of the company."

"ALEX. BONNEVAL, *Sec'y.*

Now, therefore, the said Edward Toby, president, and Alexander Bonneval, secretary, in their several capacities, and in behalf of said New Orleans Water Works Company, do hereby declare and acknowledge that the said New Orleans Water Works Company is justly and truly indebted unto Adolphe Schreiber, Esq. of the city of New Orleans, in the full and true sum of five thousand dollars, lawful money of the United States of America, unto the said New Orleans Water Works Company, by said Adolphe Schreiber loaned and advanced for the purposes set forth in said act and resolutions and for the reimbursement whereof,—the said Edward Toby, president, has made and subscribed for and in the name of said New Orleans Water Works Company, one thousand bonds of five hundred dollars each, dated the first day of April, 1879 payable in thirty years after date to, the said Adolphe Schreiber or bearer, at the office of the said New Orleans Water Works Company, in this city, with interest thereon at the rate of six per centum per annum from date till paid—which interest is represented by sixty coupons of fifteen dollars each, numbered from one to sixty, attached to each of said bonds, each coupon being payable semi-annually to the bearer thereof, at the office of said New Orleans Water Works Company, on the first days of April and October of each year; which said bonds have been countersigned by said Alexander Bonneval, secretary, and the impress of the seal of said New Orleans Water Works Company affixed thereto by him, and after being by me, notary duly *paragraphed* in order to identify the same herewith have been delivered unto the said Adolphe Schreiber, hereto present, acknowledging the receipt thereof and accepting these presents for himself, and such person or persons who may become the holder or holders of said bonds and coupons,—

Now, in order to secure the full and final payment of said bonds and coupons, the said Edward Toby, president, and Alexander Bonneval, secretary, in their several capacities and by virtue
1379 of the aforesaid authorization unto them conferred, do by these presents, for and in the name and in behalf of said New Orleans Water Works Company, specially mortgage, affect and hypothecate unto and in favor of the said Adolphe Schreiber, and assigns, and such person or persons who may hereafter become the holder or holders of the aforedescribed bonds and coupons,

The following-described property, real, personal and mixed, rights, franchises, and appurtenances, to wit:

All and singular the property, real and personal of whatever nature or kind soever, belonging to the water works constructed and

established by the Commercial Bank of New Orleans and subsequently by the city of New Orleans and the dykes, mounds, reservoirs, machinery and apparatus, engines, boilers, pumps, conduits, aqueducts, pipes, tools and all appurtenances thereunto belonging, or in anywise appertaining,

And the following real estate to wit:

First. A certain square of ground together with the reservoirs, buildings and all other improvements thereon, and the rights, servitudes, ways, privileges and appurtenances thereunto belonging or in anywise appertaining, situated in the Faubourg Annunciation, in the first district of this city, designated by the No. eighteen, on a plan of said faubourg, drawn by B. Lafon, surveyor, dated 18th day of March, 1807; which said square is bounded by Religious, St. Thomas, formerly St. John, the Baptiste Richard and Market streets, and it has a front on each — said streets of three hundred feet:—And by a sketch, made by Jules Allon d'Hemecourt, city surveyor, dated the 5th day of April, 1878, and annexed for reference to an act of transfer by the city of New Orleans, to the New Orleans Water Works Company, passed before Gustave Le Gardeur, Jr.; city *city* notary on the ninth of April, 1878, the said square is designated by the No. eighty-three, and measures three hundred and nineteen feet, eight inches and two lines front on said Religious street, three hundred and nineteen feet, ten inches and one line front on St. Thomas street, three hundred and nineteen feet, eleven inches and one line front on Market street, and three hundred and nine-
1380 teen feet, ten inches and four lines on Richard street;

Second. A certain piece or portion of ground together with the buildings and improvements thereon, and the machinery and apparatus, boilers, engines, iron chimneys, and all the rights, privileges, servitudes, ways, and appurtenances thereunto belonging or in anywise appertaining, situated in the Suburb Lacourse, in the first district of this city in the square bounded by New Levee, Tchoupitoulas, Richard and Orange streets, and measuring one hundred and ninety-one feet, nine inches and six lines front on New Levee street, one hundred and ninety-one feet, nine inches and four lines front on Tchoupitoulas street, three hundred and eighty-three feet, seven inches and three lines front on Richard street, and three hundred and eighty-three feet, seven inches and three lines on a straight line running from the termination of the line on said New Levee street, to the termination of the line on said Tchoupitoulas street, parallel to Orange street, and dividing the said piece or portion of ground from the property now or formerly belonging to A. Caldwell and R. Toledano—which form the remainder of said square which is designated by the No. thirty-nine on the aforementioned sketch made by J. A. d'Hemecourt according to which said sketch said piece or portion of ground, measures one hundred and ninety-one feet, six inches and six lines front on New Levee street, one hundred and ninety-one feet seven inches and six lines front on Tchoupitoulas street, three hundred and eighty-three feet, seven inches and two lines front on Richard street, and three hundred and eighty-three feet and eight inches on said line dividing the said

piece or portion of ground from the property of Caldwell and Toledano;

Third. A certain square of ground, together with all the rights, ways, privileges and appurtenances thereunto belonging, or in anywise appertaining, situated in the first district, of this city, comprised within Peters, late New Levee Water, Orange and Richard streets, and designated by the No. thirty-nine A; as per plan drawn by Louis H. Pilie, surveyor, dated 29th June 1867, and deposited for reference in the office of H. C. Dibble, then a notary in
1380½ this city, as plan No. nineteen, according to which said plan said square is divided into twenty-eight lots numbered from one to twenty-eight inclusive, and they measure as follows, to wit:

Lot No. one forms the corner of Water and Richard streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width in the rear, by one hundred and nine feet and four inches in depth & front on Richard street;

Lots Nos. two to eleven inclusive, adjoin each other and measure each twenty-six feet and seven inches front on Water street, by one hundred and nine feet and four inches in depth between parallel lines;—

Lot No. twelve forms the corner of Water and Orange streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width in the rear, by one hundred and nine feet and four inches in depth and front on Orange street;

Lots Nos. thirteen and fourteen adjoin each other and measure each twenty-six freet front on Orange street, by one hundred and fifty-nine feet, eight inches and four lines, more or less, in depth between parallel lines;

Lot No. fifteen forms the corner of Orange and Peters streets, and measures twenty-six feet, eight inches and six lines front on Peters street, twenty-six feet, nine inches and four lines in width in the rear, by one hundred and nine feet and four inches in depth and front on Orange street;

Lots Nos. sixteen to twenty-five inclusive adjoin each other and measure each twenty-six feet and seven inches front on said Peters street, by one hundred and nine feet and four inches in depth between parallel lines;

Lot No. twenty-six forms the corner of Peters and Richard streets and measures twenty-six feet, nine inches and five lines front on Peters street, by one hundred and nine feet and four inches in depth and front on Richard street;

1381 Lots Nos. twenty-seven and twenty-eight measure each, twenty-seven feet front on said Richard street, by one hundred and fifty-nine feet, eight inches and four lines in depth between parallel lines;

And by the aforementioned sketch made by J. A. d'Hemecourt the said square is designated by the No. twenty-one "B" and measures three hundred and nineteen feet, four inches and four lines front on Water street, three hundred & nineteen feet, five

inches and three lines front on Peters street, two hundred and seventy-two feet and eight inches front on Richard street, and the same front on Orange street;

Being the same property which the said New Orleans Water Works Company acquired by purchase from the city of New Orleans by act passed before said G. Le Gardeur Jr. city notary, on the said ninth day of April 1878, registered in the conveyance office of this parish in Book 110.—Folio 453.

And in these presents are specially mortgaged, affected and hypothecated—

All the property and franchises of said company, including its franchises — a corporation, and all the property and franchises of said company, acquired or to be acquired, and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans, shall operate on the property and franchises of said company, wheresoever situated, and shall be and continue a valid and subsisting mortgage until the payment of the debt secured by it, without reinscription.—

The said real and personal property rights and franchises are so to remain mortgaged and hypothecated until the full and final payment of the said bonds and coupons, the said Edward Toby president, and Alexander Bonneval, secretary, hereby binding the said "New Orleans Water Works Company"—and its assigns not to sell, alienate, deteriorate nor in anywise encumber any part or parts of the hereinbefore described and herein hypothecated real and personal rights & franchises to the prejudice of these presents;—the
1382 whole of which is hereby accepted by the said Adolphe Schreiber for himself and any and all such person or persons who may become the holder or holders of said bonds and coupons.

By reference to the hereunto annexed certificate of the recorder of mortgages in and for the parish of Orleans it appears that there are no other mortgages standing in the name of the said "New Orleans Water Works Company" and recorded against the aforedescribed premises than 1° the draining privilege, and 2d the privilege in favor of Leeds & Co., for eleven hundred and fifty-nine $\frac{38}{100}$ dollars, interest, &c., for materials furnished "city water works," per affidavit sworn to before John McCormick, second justice of the peace, dated September 19th, 1877; which said privilege, the said Toby, president, and Bonneval, secretary, in their aforesaid capacity declare to be inoperative and null & void, and with which declaration the said Adolphe Schreiber declared himself satisfied.

Thus done and passed in my office at the city of New Orleans aforesaid, the day, month, & year first above written in presence of Michel V. Dejan and Louis G. Elfer competent witnesses with the said appearers and me, notary, after reading hereof.

EDWARD TOBY, *Pres't.*
ALEX. BONNEVAL, *Sec'ry.*
A. SCHREIBER.
JAS. FAHEY, *Not. Pub.*

MICHEL V. DEJAN.
LOUIS G. ELFER.

Office of the recorder of mortgages for the parish of Orleans, in the city of New Orleans, State of Louisiana.

I the undersigned recorder of mortgages in and for the State and parish aforesaid duly commissioned and qualified, do hereby certify that the within act of mortgage granted by the New Orleans Water Works Company, in favor of Adolphe Schreiber has been this day duly recorded in my office in Book of Mortgages No. 176 folios 130, 131 and 132 on the first day of April A. D. 1879.

As witness my official signature and impress of the seal of
1383 the mortgage office at New Orleans on said first day of April A. D. 1879.

[SEAL.] J. G. RICHARDSON, *D'y Rec.*

MAYORALTY OF NEW ORLEANS,
CITY HALL, *August 8th*, 1878.

No. 4628, administration series.

Whereas section 9 of act No. 33 of the extra session of 1877 provides

That the board of directors of said company shall have power, in addition to the authority to increase its capital stock, to borrow money for the purpose of improving and enlarging its works, and increasing the supply of pure water, and to accomplish this purpose said board of directors are hereby authorized to issue the bonds of the company to the amount not exceedings two million dollars in such sums, on such terms, and bearing such rate of interest as said board may determine, and the payment of said bonds in principal and interest may be secured by a mortgage of all the property and franchises of said company including its franchise to be a corporation; and said mortgage may include the property and franchises of said company acquired or to be acquired in the registration of said mortgage in the office of the recorder of mortgage- for the parish of Orleans shall operate on the property and franchises of said company wheresoever situated, and shall be and continue a valid and subsisting mortgage until the payment of the debt secured by it without reinscription; *provided* however that no bond shall be issued or mortgage given without the consent of the council of the city of New Orleans, and said bonds shall not be sold or disposed of except on such terms as shall be approved by said city council of said city, and whereas, the board of directors of the New Orleans Water Works Company has passed a resolution at the meeting held on the 22nd of July 1878, at the office of the company No. 47 Camp street, to issue six hundred thousand dollars of bonds of said company bearing six per cent. per annum, payable not less than
1384 twenty-five years after date, and payment of which capital and interest is secured by a mortgage covering all the property, and franchises of said company, acquired or to be acquired including its franchise to be a corporation for the purpose of improving and enlarging its works, and increasing the supply of pure water therefor-

Be it ordained—That the council of the city of New Orleans hereby approves and gives its consent to the issuance of said bonds bearing mortgage as above stipulated; *provided;* that the said bonds shall not bear more than six per cent. interest per annum and shall not be sold or disposed of at less than their par value.

Adopted by the council of the city of New Orleans August 7th 1878.

Yeas: Cavanac, Denis, Diamond, McCaffery.

ED. PILSBURY, *Mayor.*
THOS. G. RAPIER, *Secretary.*

I hereby certify that the above ordinance is a true copy of ordinance No. 4628 A. S. adopted by the city council of New Orleans on the 7th day of August 1878 and that the same has been duly promulgated in the official journal.

R. C. MORGAN,
Ass't Sec'y Council.

NEW ORLEANS, *July 22nd,* 1878.

Special meeting of the board of directors of the N. Orleans Water Works Company.

The board met this day pursuant to the call of the president at the office of the Co. No. 47 Camp street.

Present: Messrs. E. Toby pres't P. Fourchy, James D. Edwards ad'r of W. works & P. buildings, W. W. Washburn & P. Sala. Absent his honor Ed. Pilsbury mayor & J. C. Denis, ad'r of finance.

The minutes of the last meeting were read and approved.

1385 On motion duly seconded, the following resolution was unanimously adopted—

Whereas section 9 of the act No. 33 of the extra session of 1877 provides—

That the board of directors of said company shall have power in addition to the authority to increase its capital stock to borrow money for the purpose of improving & enlarging its works, and increasing the supply of pure water; and to accomplish this purpose, the said board of directors are hereby authorized to issue the bonds of the company to an amount not exceeding two millions of dollars, in such sums on such terms, and bearing such rate of interest as said board may determine, and the payment of said bonds, in principal and interest may be secured by a mortgage of all the property and franchises of said company, including its franchise to be a corporation, and said mortgage may include the property and franchises of said company, acquired or to be acquired, and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans, shall operate on the property and franchises of said company, wheresoever situated and shall be and continue a valid and subsisting mortgage until the payment of the debt secured by it, without reinscription: Provided, however, that no bond shall be issued, or mortgage given, without the consent of the

council of the city of New Orleans and said bonds shall not be sold or disposed of except on such terms as shall be approved by said council of said city—

Therefore the president of this company is hereby authorized to have an act of mortgage executed covering all the property and franchises of said company, acquired or to be acquired including its franchise to be a corporation; for the purpose of borrowing six hundred thousand dollars and issueing bonds bearing six per cent. interest per annum, payable in thirty years after date, and the payment of said bonds, in principal and interest shall be secured by said mortgage; said bonds to be sold or disposed *or* at not less than par and proceeds used exclusively for improving and en-
1386 larging the works of this company within the five years limited by the charter. Said act of mortgage & bonds to be signed by the president and secretary of this company in favor of —

And the president is hereby authorized to apply to the council of the city of New Orleans to obtain the approval and consent of said council as provided for in said section 9 of said act No. 33, of the extra session of 1877.

I hereby certify that the above is a true copy of the minutes of the company.

ALEX. BONNEVAL, *Sec'ry.*

NEW ORLEANS, *January 29th*, 1879.

Special meeting of the board of directors of the New Orleans Water Works Company.

The board met this day pursuant to adjournment of the special meeting held January 27th 1879.

Present: Messrs. E. Toby pres't, Hon'ble J. W. Patton mayor, A. H. Isaacson, adm'r of finance, E. R. Chevalley ad'r, of W. works & P. buildings, Paul Fourchy, P. Sala & W. W. Washburn.

On motion of Mr. P. Fourchy duly seconded the report, plans, specifications & estimates of Mr. Moses Lane C. eng. were unanimously adopted.

The president submitted to the board the form of the act of mortgage which, by resolution passed at the meeting of the board held July 22nd 1878, he was authorized to have executed, covering all the property and franchises of this company acquired or to be acquired, including its franchise to be a corporation for the purpose of borrowing six hundred thousand dollars, and issuing bonds, bearing six per cent. interest per annum and payable thirty years after date.

On motion of Mr. P. Fourchy duly seconded the amount of the bonds to be secured by mortgage is reduced from six hundred thousand dollars to five hundred thousand dollars & with this *this* modification the form of the mortgage was unanimously adopted, to be executed as prescribed by said resolution of July 22nd, 1878.

I hereby certify that the above is a true & correct tran
1387 script from the minutes of the company.
ALEX. BONNEVAL, *Sec'ry.*

State of Louisiana, }
Parish of Orleans. }

Office of Recorder of Mortgages.

The undersigned recorder of mortgages for the parish of Orleans, State of Louisiana, certifies that in the record of this office there are no other mortgage- standing in the name of New Orleans Water Works Company organized under act No. 33 of the extra session of 1877 of the General Assembly of the State of Louisiana approved March 31st A. D. 1877, and recorded against

1°. A certain square of ground situated in the first district of this city, designated by No. 18 and bounded by Religious St. Thomas formerly St. John the Baptist, Richard and Market streets and has 300′ more or less front on each of said streets.

2°. A certain portion of ground situated in the first district of this city, in square bounded by New Levee, Tchoupitoulas, Richard and Orange streets, and measuring 39′ 9″ 6‴ on — 3‴ on New Levee street, 191′ 9″ 4‴ on Tchoupitoulas street, 383′ 7″ 3‴ front on Richard street and 383′ 7″ 3‴ running from Tchoupitoulas to New Levee streets, and parallel to Orange street and divides said property from that of Toledano, said measurement more or less.

3d. A certain square of ground, situated in the first district of this city, bounded by Peters late New Levee, Water, Orange and Richard streets, designated by No. 32 A contains 28 lots of ground numbered from 1 to 28 inclusive and measures as follows; Lot No. 1 forms the corner of Richard and Water streets and measure- 26′ 9″ 2‴ on Water street, 26′ 9″ 3‴ in width in the rear by 109′ 4″ 0‴ in depth and front on Richard street.

Lots Nos. 2 to 11 inclusive adjoin and measure each 26′ 7″ 0‴ front on Water street, by 109′ 4″ 0‴ in depth between par-
1388 allel lines. L't No. 12 forms the corner of Orange and Water streets, and measures 26′ 9″ 2‴ front on Water street, 26′ 9″ 3‴ in width in the rear by 109′ 4″ 0‴ in depth and front on Orange street. Lots Nos. 13 & 14 adjoin and measure each 26 — front on Orange St., by 159′ 8″ 4‴ more or less in depth between parallel lines. Lot No. 15 forms corner of Peters and Orange streets, and measures 26′ 9″ 6‴ front on Peters street 26′ 9″ 4½‴ in width in the rear, by 109′ 4″ 0‴ in depth and front on Orange street.

Lots Nos. 16 to 25 inclusive adjoin each other and measure each 26′ 7″ 0‴ front on Peters street by 109′ 4″ 0‴ in depth between parallel lines.

Lot No. 26 forms the corner of Peters and Richard streets, and measures 26′ 9″ 5‴ on Peters street, by 109′ 4″ 0‴ in depth and front on Richard street.

Lots Nos. 27 and 28 measure each 27′ front on Richard street by 159′ 8″ 4‴ in depth between parallel lines.

Than

The drainage privilege.

Bk. 123 fo. 88 Rec'd May 12, '69 Bk. 10 fo. 361 Rec'd July 15, '70 Bk. 153 fo. 693 Rec'd Sept. 19, '77.

The mortgage it granted in favor of city of New Orleans, per act before M. De Armas, notary dated June 16th 1820 to secure $2,500.00 *inch* &c. on boilers &c. of New Orleans water works. The privilege in favor of Leeds &c. for $1,159.38 int. &c. for materials furnished city water works, per affidavit before Jno. McCormick, 2nd justice — peace, dated Sept. 19th 1877.

New Orleans February thirteenth 1879.

J. G. RICHARDSON, *D'y R.*

[Written across the face:] Null and void. J. G. R., d'y.

I the undersigned Peter Stifft, custodian of notarial records do hereby certify that the above and foregoing act of mortgage and certificate of the recorder of mortgages annexed thereto, are true and correct copies of the originals on file and of record in my office; and the annexed documents are true and correct copies of duly certified copies annexed to said original act of mortgage.

1389 New Orleans December 5th 1899.

PETER STIFFT,
Custodian Notarial Records, Parish of Orleans.

1390 *Copy of Def't's Offer A No.* 8.

Extracts from the proceedings of the legislative department, the council of the city of New Orleans, and copies of promulgated ordinances.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *February* 23, 1869.

The board met in regular session pursuant to adjournment.

Present, President Kearny in the chair, and Messrs. Rose, Aitkens, Pemberton, Camp, Sturcken, Fisher, Morphy, Pandely, Farrell and Breen.

The committee on water works submitted the following report:

NEW ORLEANS, CITY HALL, *February* 16, 1869.

To the honorable the board of assistant aldermen.

GENTLEMEN: Your committee on water works, to whom was referred a resolution directing them to report a table of rates for water rents, have examined the rates now being charged and collected by the board of commissioners of the water works, and find them entirely too high, and are a cause of general complaint among consumers of water. These rates are considerably higher than in many

other well-regulated cities. We cite Chicago as an instance, as in that city the water is pumped in the same manner as it is done here. We furnish a few of the items of rates for water in Chicago and other cities for the information of the council:

Prices at New Orleans.

For 1 or 2 rooms	$8 00
For 3 or 4 rooms	10 00
For 5 or 6 rooms	12 00
For 7 or 8 rooms	14 00
For 9 or 10 rooms	16 00
For 11 or 12 rooms	18 00
For 13 or 14 rooms	20 00
For 15 or 16 rooms	22 00
For 17 or 18 rooms	24 00
For 19 or 20 rooms	26 00
Each additional room	1 00

Prices at Cincinnati.

For 1 or 2 rooms	$4 00
For 3 or 4 rooms	5 00
For 5 or 6 rooms	6 00
For 7 or 8 rooms	8 00
For 9 or 11 rooms	10 00
For 11 or 12 rooms	11 00
For 13 or 14 rooms	13 00
For 15 or 16 rooms	14 00
Each additional room	50

Prices at Detroit.

For 5 rooms	$5 00
For 6 rooms	6 00
For 7 rooms	7 00
For 8 rooms	8 00
For 10 rooms	9 00
For 12 rooms	10 00
Each additional room	50

Prices at Louisville.

For 2 rooms	$4 00
For 4 rooms	5 00
For 6 rooms	6 00
For 8 rooms	8 00
For 10 rooms	9 00
For 11 rooms	10 00
Each additional room	50

1391

Per 1,000 gallons.

Cincinnati	0 15
Louisville	15
Chicago	from 15 cents down to 10

You will observe from the above comparative table of rates that the charges in this city are much above the average in Chicago and other cities. Your committee would ask your special attention to the high price that is charged for water supplied to steam-engines, which is a cause of most onerous taxation on manufactories of all kinds, and has a tendency to depress that kind of industry. Should this state of affairs continue, this class of consumers will undoubtedly return to the use of cisterns and abandon the use of the hydrant. Already the managers of the gas works have laid the necessary pipes and are drawing their water from the new canal, and several distilleries draw their water from the river, and it is reasonable to suppose that many others will do the same. Your committee is of the opinion that the water should be furnished at the lowest possible rates, so as to induce its general use. Your committee, therefore, have the honor to report the following table of rates and earnestly recommend its adoption.

Very respectfully,

W. H. PEMBERTON, *Chairman.*
G. PANDELY.
GERALD FARRELL.
CHAS. GRANDPRE.

The following resolution accompanying the above report was unanimously adopted on its first reading, after which, on motion of Mr. Pandely, further consideration was deferred until Saturday next, the 27th inst., when the water-works ordinance will be the order of the day:

Whereas the rate for water rents being so high that they cause much complaint, therefore be it

Resolved, That the following rate for furnishing water to the inhabitants of New Orleans be and is hereby reduced to the following rates.

Reduction of Water Rents.

Private dwellings.

For 1 or 2 rooms	$5 00 per annum.
For 3 or 4 rooms	6 00 per annum.
For 5 or 6 rooms	7 00 per annum.
For 7 or 8 rooms	9 00 per annum.
For 9 or 10 rooms	11 00 per annum.
For 11 or 12 rooms	12 00 per annum.
For 13 or 14 rooms	15 00 per annum.
For 15 or 16 rooms	18 00 per annum.
For 17 or 18 rooms	20 00 per annum.

Houses containing more than 20 rooms to be charged at the rate of 50 cents for each additional room.

Houses occupied by more than one family to be charged at the above rates for one family, and $3.50 for each additional family.

Boarding-houses to pay the same rates as above for houses containing the same number of rooms, and 50 cents for each additional room.

Warm public baths	$12 00 per annum.
Cold public baths	7 00 per annum.
Barber wash-stands	4 00 per annum.
Barber chairs, each	3 00 per annum.
Private stables, each stall	3 00 per annum.
Livery	2 50 per annum.
For each vehicle	1 50 per annum.
Stock, per head	1 00 per annum.
Bakers, per barrel of flour	1c.
For coffee-houses, from	$8 00 to $20 00

Restaurants to be assessed.
Fountains to be assessed.

1392	Stores, offices and sleeping-rooms	$5 00 to $15 00
	Smith's shops, for forge	2 00

Steam-engines to be estimated according to size, etc., and for every additional fifty hands $5 per annum, or to be determined by measurement, not to be more than 25 cents per 1000 gallons, and large consumers using over 200,000 gallons per month to be charged 15 cents per 1000 gallons. Large manufactories, hotels, distilleries, breweries and all other large consumers to pay at the rates above by assessment or meter.

Special charges for sprinkling streets, watering gardens, etc., to be arranged by the superintendent of the water works.

Official.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *February* 27, 1869.

The board met in regular session.

President Kearny in the chair, and Messrs. Rose, Aitkens, Walker, Pemberton, Camp, Montgomery, Sturcken, Grandpre, Fisher, Morphy, Pandely, Farrell and Breen, present.

The reading of the minutes of the last meeting was, on motion, dispensed with.

On motion of Mr. Pandely, the board went into executive session, and after concluding the object of the session, the doors were reopened, and the order of the day, the subject of the water works, taken up.

On motion of Mr. Fisher, the board resolved itself into committee of the whole, Mr. Breen in the chair, when, after some time spent in debate, the committee arose and through its chairman reported progress, and asked permission to sit again. The board then, on motion of Mr. Pandely, adjourned to meet on Tuesday next in regular session.

JOHN TOBIN, *Secretary.*

Common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *April* 13, 1869.

The board met in regular session pursuant to adjournment.

Present: President Kearny and Messrs. Rose, Aitkens, Walker, Camp, Montgomery, Wynne and Farrell.

The following communication, transmitted through the mayor, together with accompanying reports relative to the water works were received:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *April* 9, 1869.

Hon. John R. Conway, mayor of New Orleans.

SIR: The weekly summary statement of the finances of these works is herewith enclosed; also copies of two important communications to the board of commissioners on the subject of water supply and water rates, to which the board asks the special attention of the common council.

Cases of appeal on account of water rates have been frequently sent to this office recently by individual members of the council, and I am desired to ask attention to the fact that a communication recommending a reduction of these rates was made to this board on the 5th March last, approved and sent to the common council asking a concurrence. This office has not been notified of any action, and this board does not now feel authorized to act.

If the council will approve that recommendation, or refer the subject back to the board of water commissioners, with authority to act, an immediate and large reduction in the water rate will be made applicable, as well to those who have as to those who have not paid for this year.

I am, sir, very respectfully, your obedient servant,

BRAXTON BRAGG,
Superintendent.

1393 OFFICE CITY WATER WORKS,
NEW ORLEANS, *April* 7, 1869.

To the president and board of commissioners, city water works.

GENTLEMEN: You are presented herewith an abstract of the measurements of water delivered in the first quarter of this year by meter.

To make a fair and just showing, they have been placed in tabular form, by which comparison can be made, not only of the rates charged this year, but also of those paid by the same parties last year.

The results are so remarkable and extraordinary as to induce me to ask your special attention and scrutiny. They go to show the entire correctness of the principle on which you acted in establish-

ing your rates, viz., to make them uniform, and though the result is not yet satisfactory, the small consumer still paying too much in proportion, you have made a long stride in the right direction.

A few more applications of the meter now being made will enable you to do full justice to all parties. These measurements fully develop the cause and the animus of the recent misrepresentations made both to the city government and the public.

The large distillery, for instance, that received its water last year at two and nine-tenths cents for 1000 gallons, now pays twenty cents for the same supply. *Per contra*, the poor laborer or widow, who paid ninety cents last year, now gets the same allowance for forty cents. The large steam bakery which paid only eighteen cents last year, whilst his small neighbor paid eighty, is now put on an equality with the latter, the one being put up and the other down to a medium. But the greatest contrast is to be found in the larger establishments. In the three large sugar refineries, one paid four and seven-tenths cents for 1000 gallons, another three and two-tenths cents for 1000 gallons, and the third and largest, one and four-tenth cents for 1000 gallons. Here was a discrimination of more than three hundred per cent. against one man and in favor of another engaged in the same commercial business. Yet this is called "protecting commerce," and the correction of this gross discrimination is denounced as "destroying commerce." This one establishment, Mr. Thompson's refinery, used more water than three thousand small families, yet they paid last year $45,000, whereas the wealthy consumer paid $1000. Such monopolies are not in consonance with the fair and just views of our people, and will not be tolerated when once exposed. Just 15 per cent. of all the water that is paid for is now taken by five large consumers. Yet they have heretofore paid only 2 per cent. of the revenues. It is due to Mr. Goodale, the owner of the smallest of these refineries, to say that he candidly acknowledged the fairness and justness of the increased charge against him, and only claims to be put on the same basis with others engaged in the same trade. Mr. Pelton, of the second refinery, has also very gracefully yielded to facts and figures. Not so with Mr. Thompson, of the Crescent refinery, however. Every artifice and device has been invoked to postpone and evade a fair settlement. Yielding to the necessity, promise has at last been given to put on the necessary meters, which will be done as soon as the castings can be prepared.

The correspondence with the proprietor of this establishment shows some very strange and inexplicable assertions and denials, totally inconsistent with each other and with existing facts, which will be laid before you at any time he may desire. But in view of the fact that he has verbally expressed a willingness now for the placing of the meters, it is deemed unnecessary to refer to the matter in greater detail. No system of assessment or calculation can be perfectly uniform, except that of the meter. But the application of this instrument is not practicable, on account of its cost, to very small consumers.

A fair discrimination, too, is proper when it is applied in favor of the large consumer on the general principle of wholesale and
1394 retail, and also owing to the fact that the cost of delivery to the small consumer is higher for 1000 gallons than to the larger one.

The absolute cost of delivering water here, taking the expenses of 1868 as a basis and calculating the value of the works as appraised	$2,000,000 00
At 5 per cent. would be for interest	100,000 00
Operating expenses and repairs	80,000 00
Deterioration in works 5 per cent. on the par value	75,000 00
	$2,255,000 00

Delivering 2,227,000,000 gallons, as was done last year, the cost was just eleven cents and a half for 1000 gallons; the loss by waste and that consumed by the public and not paid for, would add at least 40 per cent. to this, making the cost about 16 cents for each thousand gallons taken by paying consumers.

The working of the meter, so far, goes to show that a still further reduction may hereafter be made in the water rates, but in justice that reduction should enure almost entirely to the small consumer until he is brought nearer an equality with his more fortunate neighbor.

I am, very respectfully,

BRAXTON BRAGG,
Superintendent.

OFFICE CITY WATER WORKS, NEW ORLEANS, *April* 6, 1869.

Memorandum of Bills Rendered for First Quarter, 1869, *for Water Delivered by Measurement, Compared with Bills for* 1868.

No.	Designation of establishment.	Quantity of water used, gallons.	Charge for 1,000 gallons, 1869—cents.	Amount of bill, 1869.	Price paid per 1,000 gallons, 1868—cts.
1	Purvis' sash factory	57,365	40	$22 94	$43\frac{6}{16}$
2	United States bakery	69,174	40	27 67	18
3	Carre's lumber yard	83,298	40	33 32	30
4	Golding's iron foundry	137,786	40	55 00	$36\frac{3}{16}$
5	Crescent billiard saloon	185,490	37	70 63	27
6	Leonard's livery stable	262,045	37	96 95	24
7	City hall	536,670	.....	Free.	.....
8	Maginnis' oil factory	670,019	28	187 61	$5\frac{6}{16}$
9	St. Charles hotel	2,264,000	20	452 88	$7\frac{7}{16}$
10	Goodale sugar refinery	3,150,000	20	630 00	$4\frac{7}{16}$
11	Madden's distillery	4,237,079	20	847 40	$2\frac{9}{16}$

Remarks.—By meter measurement.

No.	Designation of establishment.	Quantity of water used, 1869.	Charge per 1,000 gallons, 1869—cents.	Amount of bill, 1869.	Price paid 1,000 gallons, 1868—cents.
1	Dwelling—four rooms and four persons	5,400	$41\frac{3}{16}$	$2 50	$92\frac{6}{16}$
2	Dwelling—ten rooms and ten persons	18,000	$41\frac{6}{16}$	7 50	76
3	Bakery No. 106 Dumaine street, dwelling, horses and carts	20,610	40	808 00	.....
4	Crescent sugar refinery	18,480,000	20	3,696 00	$1\frac{4}{16}$

Remarks.—By rule measure and calculation on the basis of Boston and Cincinnati.

The lowest schedule rate for water, by measurement, to large consumers in different cities from which rates have been obtained, is as follows: Cincinnati and Louisville, 15 cents per 1000 gallons; Jersey City, $16\frac{2}{3}$ cents; New Orleans, New York, Brooklyn,* Chicago and St. Louis,* 20 cents; Boston and Cambridge, Mass., 30 cents.

1395 OFFICE CITY WATER WORKS, NEW ORLEANS, *April 7*, 1869.

Comparative Statement of Work Done and Stores Consumed at the Pumping Works, City Water Works, for the Month of July, 1868, *Preceding this Administration, and the Month of March*, 1869.

Year.	Month.	Days.	Water gauge—feet.	Fuel and other stores consumed.						Cost.			Saving in one month.
				Coal—bushels.	Coke—bushels.	Oil—gallons.	Tallow—pounds.	Packing yarn—pounds.	Rope cutting—pounds.	Fuel.	Stores.	Total.	
1868	July	31	29	6,211	.....	$453\frac{3}{4}$	101	$20\frac{1}{2}$	62	$1,428 58	$98 19	$1,526 70	.....
1869	March	31	28	2,271	2,559	$323\frac{3}{4}$	$96\frac{1}{2}$	48	$47\frac{1}{2}$	727 05	82 47	809 52	$717 20

	Gallons.
Average daily quantity of water delivered in the month of July 1868	6,137,303
Average daily quantity of water delivered in the month of March, 1869	4,583,585
Average daily saving	1,553,718

* In these two cities the water board, in special cases, may contract at a lower rate. New York and Boston are supplied without the use of steam power, the natural elevation being sufficient.

and supplying more consumers than in July last. At the same time, the height of water, as indicated by the gauge, is increased from 20 to 28 feet, showing the supply 40 per cent. improved. These results have been obtained—first, by checking the many abuses leading to the waste of water, and second, by judgment and good management in running the machinery, six months' close attention and experiments having developed many errors and much unneccessary expenses.

It may not be practicable to keep the expense down to the low figure of March, but the saving can certainly be made to average $500 per month.

To the officers and men of the pumping department, much credit is due for this most gratifying result.

Respectfully submitted,

BRAXTON BRAGG,
Superintendent.

The common council.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *April* 27, 1869.

The board met in regular session.

Present: President Kearny, and Messrs. Aitkens, Walker, Pemberton, Fisher, Morphy, Pandely, Wynne and Farrell.

The following ordinance submitted by Mr. Pemberton was unanimously adopted;

Be it ordained by the common council of the city of New Orleans, That from and after the promulgation of this ordinance the following shall be the legal tariff of rates for water furnished by the city water works;

Be it further ordained, That in case where parties have already paid a higher rate they shall be entitled to have credit for the excess on the next year's water rent, said excesses to be estimated only from and after the promulgation of this ordinance.

City water works of New Orleans.

Tariff of Water Rates, Payable Annually in Advance on the First Day of January, at the Office.

1. Private dwellings, per annum.

For 1 or 2 rooms	$5 00
For 3 or 4 rooms	7 00
For 5 or 6 rooms	8 00
For 7 or 8 rooms	9 00
For 9 or 10 rooms	11 00
For 11 or 12 rooms	12 00
For 13 or 14 rooms	15 00
1396 For 15 or 16 rooms	18 00
For 17 or 18 rooms	20 00
For each room above 18	50

Boarding-houses and boarding schools to be charged above rates and one dollar in addition for each room.

Houses occupied by more than one family to be charged for each family over and above one, one-half the dwelling rates. Day schools, dwelling rates.

2. Hotels, per annum.

3. Stores, shops, etc., per annum for wholesale and retail stores and shop.

Dry	$5 00 to $20 00
Groceries, etc	5 00 to 20 00
Offices and sleeping-rooms	5 00 to 20 00

4. Saloons, etc., per annum.

For * eating and coffee-houses	10 00 to 50 00
For * drinking.	
For * lager beer and ice creams, etc.	
For billiard saloons, per table	5 00
For bowling saloons, per alley	10 00
For gambling saloons	75 00

5. Stables, per annum.

For livery and sale and street railroad, per stall	2 50
Livery and street railroad, for each wheeled vehicle or car	2 00
Private stable, for each horse or mule	3 00
Private stable, for each cow or head of cattle	1 50
Private stable, for each carriage, buggy or vehicle	2 00
Government stable, for each stall	2 50
Stock yards, per head of stock	1 00

6. Hose attachments, per annum.

For sprinkling streets and washing sidewalks, steps, windows, and fronts of lots, not over 25 feet front and half the width of street	6 00
Each additional foot front	15
Corner lots, both fronts charged.	
For sprinkling private yards and gardens and washing walks in the same, per 100 square yards	50
Sprinkling public or pleasure gardens, per 100 square yards	1 00
Street-sprinkling cart, per 100 square yards	1 00
Washing by the momentum of the jet alone for any purpose add per square-inch area of nozzle	100 00
Protection against fire when rented for no other purpose, add per square-inch area of attachment	40 00

* Assessed.

7. Baths, per annum.

For private dwellings, not over 6 rooms, cold bath, each	3 00
For private dwellings, not over 6 rooms, warm bath, each	5 00
For private dwellings, over 6 rooms, cold bath, each	4 00
For private dwellings, over 6 rooms, warm bath, each	7 00
Hotels, boarding-houses, hospitals and public houses, cold bath, each	8 00

8. Water-closets, per annum.

Hotels, boarding-houses, hospital and public bath-houses, warm bath, each	10 00
For private dwellings, stores, and offices each	5 00
For hotels, boarding-houses, hospitals, prisons, saloons, and all other public places, each	8 00

None but self-closing allowed.

9. Urinals, per annum.

For private dwellings, stores and offices	2 00
For hotels, boarding-houses, hospitals, prisons, saloons, and all other public places, each	8 00

1397 10. Stationary wash-basins, per annum.

For private dwellings, stores and offices	3 00
For hotels, boarding-houses, hospitals, prisons, saloons, barber shops, manufactories, and all other public places	5 00

11. Kitchen and laundries, per annum.

For slop sink, with draw	3 00
For each additional	2 00
Wash-tubs, with draw, each	2 00

* Laundries, washerwomen.

12. Building purposes, per annum.

For brick-work, 10,000 or less	1 00
For brick-work, over 10,000, per thousand	10
For plastering, per square yard	01

13. Quantity assessments by estimate or meter measurement, per annum.

For daily average of 2000 or less per 1000 gallons	25
Daily average of 2000 to 4000 gallons, per 1000 gallons	24
Daily average of 4000 gallons to 6000 gallons, per 1000 gallons	22
Daily average of 6000 gallons to 8000 gallons, per 1000 gallons	20
Daily average of 8000 gallons to 10,000 gallons, per 1000 gallons	18
Daily average over 10,000 gallons, per 1000 gallons	14

14. Manufacturers, artisans, etc., per annum.

For bakeries, for each barrel of flour used	01
* Breweries.	
Barber shops, per chair	3 00
* Bookbindery.	
* Confectioners.	
* Candle and soap factories.	
* Camphene, spirit, gas or alcohol.	
* Dyers and scourers.	
* Distillers.	
* Foundries.	
* Flouring mills.	
* Fountains.	
Forges, blacksmith's, each	3 00
Forges, steam-hammer	5 00
* Glue factories.	
* Gas works.	
* Hat manufactories.	
* Hands in factories, each.	
* Hospitals, per inmate.	
* Laboratory.	
* Market stall and stands.	
* Malting, per bushel.	
* Mineral-water factories.	
* Printing offices.	
* Packing-houses, per barrel of meat packed.	
* Planing mills.	
* Rectifying establishments.	
* Railroad locomotives.	
Steam-engines, per horse-power below 10, each	8 00
Steam-engines, per horse-power above 10, each	6 00
* Slaughter-houses.	
* Sugar refineries.	
* Starch factories.	
* Steam boilers for heating purposes.	
* Tanneries, per vat.	
* Tobacco factories.	
* Vinegar manufactories.	
* Washing meat, per 100 pounds washed.	
* Cotton presses.	

1398 1. Bills rendered by meter measurement payable quarterly in advance, with the addition for rent of meter.

2. Water will be cut off when bills are not paid by the first of March.

3. For purposes not specified in the above tariff, the rate will be assessed by the registrar of water rents, based on inspection and calculation.

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* Assessed.

4. No fountain or jet will be allowed on any premises where water is not taken for other purposes, and to an extent sufficient for these purposes.

Official.

The common council.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *May* 4, 1869.

The board met pursuant to adjournment.

Present: President Markey, and Messrs. Boquille, Brady, Kaiser, O'Brien, Pessou, Poynot, Prados and Shields, 9.

The ordinance of the lower board fixing the tariff of water rates, together with a petition on the same subject from many citizens, was referred to a special committee of three, consisting of Messrs. O'Brien, Prados and Poynot, to act in conjunction with the water-works committee.

The common council.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *May* 11, 1869.

The board met in regular session pursuant to adjournment.

President Kearny in the chair, and Messrs. Rose, Walker, Camp, Montgomery, Grandpre, Morphy, Wynne and Breen.

The following communication from the superintendent of the water works, and accompanying papers, were referred to the finance committee:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *May* 7, 1869.

Hon. John R. Conway, mayor of New Orleans.

SIR: I have the honor to forward the weekly statement of cash by the treasurer of these works. Also the weekly report of the water registrar, with copies of the reports of his assistants.

Since the date of the treasurer's report, the funds of the works have been transferred to the fiscal agent of the city.

I am, sir, very respectfully, your obedient servant,

BRAXTON BRAGG,
Superintendent.

Treasurer's report omitted.

OFFICE CITY WATER WORKS,
NEW ORLEANS, *May* 5, 1869.

Mr. James Strawbridge, water registrar.

SIR: Enclosed you will see the number of bills and amount collected from the 14th of April to the 4th of May.

One hundred and eight bills, amounting to $1,946.
Bills on hand to be collected—sixty bills.

VICTOR LABATUT,
Inspector and Collector.

OFFICE CITY WATER WORKS,
NEW ORLEANS, *May* 5, 1869.

Col. James Strawbridge.

COLONEL: Enclosed please find a report of the number of bills presented and collected by me since the 14th April, inclusive, viz:
Gross number of bills presented, three hundred and seven (307); number collected, thirty-nine (39), amounting to one thousand and seventy-two dollars.
1399 Since the 27th of April parties refused to pay, waiting for the result of the city council's action upon the reduction of the tariff.

P. A. SAUVE,
Inspector and Collector.

OFFICE CITY WATER WORKS,
NEW ORLEANS, *May* 5, 1869.

James Strawbridge, Esq., water registrar, city water works.

COLONEL: Please find herewith appended, a report showing the number of bills received and amount collected by me since April 14, 1869, viz:

Month.	Bills received.	Amount.	Collected.	Amount.
April 14.....	31	$918 75	3	$44 00
April 15.....	39	1,013 00	6	205 00
April 16.....	38	802 50	4	47 00
April 19.....	39	762 50	1	18 00
April 20.....	48	927 00	11	205 00
April 22.....	39	899 50	6	123 00
April 23.....	31	721 75	4	180 25
April 24 to May 4.....	22	408 75	7	100 75
Aggregate.....	287	6,453 75	42	874 00

A record of the number and amounts of all or any of the above bills can be ascertained by referring to my collection book.
I am, sir, very respectfully, your obedient servant,

A. N. GARDNER,
Water Police.

OFFICE CITY WATER WORKS,
NEW ORLEANS, *May* 5, 1869.

Gen. Braxton Bragg, superintendent, etc.

GENERAL: Since my last report, 1036 bills for water rents have been made and issued to collectors and water-consumers applying at the office for water.

There have been paid in that time 574 bills, amounting in all to $13,959 04. Of this sum $99 85 is passed to cost of meters, leaving $13,859 19 to credit of water rents proper.

I will here remark that, since the action of the city council upon the tariff, proposing a reduction of rates, the effect has been to stop collections so far as to reduce the receipts to a nominal amount—one which would not pay current expenses. Collectors are told in so many words that the tariff is to be altered, and bills cannot be paid. The resort to the stop-cock whilst waiting their action is a harsh one, and one which has given ground, under the circumstances, to complaints, with an appearance of foundation, and yet had it not been employed, and employed freely, the receipts would have been such as to entail great loss to the city. As it is, a heavy loss will occur through the delay, many persons saying to us, "Cut the water off; we are leaving the city for the summer."

I have the honor to enclose the weekly reports of the respective collectors, called for in your letter of the 3d of April.

Very respectfully, your obedient servant,

JAMES STRAWBRIDGE,
Water Registrar.

Official.

The board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *May* 18, 1869.

The board met pursuant to adjournment.

Present: President Markey, and Messrs. Boquille, Kaiser, Pessou, Poynot, Prados and Shields, 7.

From lower board.

Be it ordained by the common council of the city of New Orleans, That from and after the promulgation of this ordinance, the following shall be the legal tariff of rates for water furnished by the city water works.

1400 Be it further ordained, That in cases where parties have already paid a higher rate, they shall be entitled to have credit for the excess on the next year's water rent, said excess to be estimated only from and at the promulgation of this ordinance.

City water works, New Orleans.

Tariff of Water Rates, Payable Annually, in Advance, on the First Day of January, at the Office.

1. Private dwellings, per annum.

For 1 or 2 rooms	$5 00
For 3 or 4 rooms	7 00
For 5 or 6 rooms	8 00
For 7 or 8 rooms	9 00
For 9 or 10 rooms	11 00
For 11 or 12 rooms	12 00
For 13 or 14 rooms	15 00
For 15 or 16 rooms	18 00
For 17 or 18 rooms	20 00
For each room above 18	50

Boarding-houses and boarding schools to be charged above rates and one dollar in addition for each room.

Houses occupied by more than one family to be charged for each family over and above one, one-half the dwelling rates.

Day schools, dwelling rates.

*2. Hotels, per annum.

3. Stores, shops, etc., per annum.

For wholesale and retail stores and shops:

Dry	$5 00 to 20 00
Groceries, etc.	5 00 to 20 00
Offices and sleeping-rooms	5 00 to 20 00

4. Saloons, etc., per annum.

* For drinking.	
* For eating and coffee houses	$10 00 to 50 00
* Lager beer and ice creams, etc.	
Billiard saloons, per table	$5 00
Bowling saloons, per alley	10 00
Gambling saloons	75 00

5. Stables, per annum.

For livery and sale and street railroad, per stall	2 50
Livery and street railroad, for each wheeled vehicle or car	2 00
Private stables, for each horse or mule	3 00
Private stable, for each cow or head of cattle	1 50
Private stable, for each carriage, buggy or vehicle	2 00
Government stable, for each stall	2 50
Stock yards, per head of stock	1 00

*Assessed.

6. Hose attachments, per annum.

For sprinkling streets and washing sidewalks, steps, windows and fronts of lots, not over 25 feet front, and half the width of street	6 00
Each additional foot front	15
Corner lots, both fronts charged.	
For sprinkling private yards and gardens and washing walks in the same, per 100 square yards	50
Sprinkling public or pleasure gardens, per 100 square yards	1 00
Street-sprinkling cart, per 100 square yards	1 00
Washing by the momentum of the jet alone for any purpose, add per square inch area of nozzle	100 00
Protection against fire, when rented for no other purpose, charge per square-inch area of attachment	40 00

7. Baths, per annum.

For private dwellings, not over 6 rooms, cold bath, each	3 00
1401 For private dwellings, not over 6 rooms, warm bath, each	5 00
For private dwellings, over 6 rooms, cold bath, each	4 00
For private dwellings, over 6 rooms, warm bath, each	7 00
For hotels, boarding-houses, hospitals and public bath-houses, cold bath, each	8 00
For hotels, boarding-houses, hospitals and public bath-houses, warm bath, each	10 00

8. Water-closets, per annum.

For private dwellings, stores and offices, each	5 00
For hospitals, hotels, boarding-houses, prisons, saloons and all other public places, each	8 00

None but self-closing allowed.

9. Urinals, per annum.

For private dwellings, stores and offices, each	2 00
For hotels, boarding-houses, hospitals, prisons, saloons and all other public places, each	2 00

10. Stationary wash-basins, per annum.

For private dwellings, stores and offices	3 00
For hotels, boarding-houses, hospitals, prisons, saloons, barber shops, manufactories and all other public places	2 00

11. Kitchen and laundries, per annum.

For slop sink, with draw	3 00
For each additional	2 00
Wash-tubs, with draw, each	2 00

*Laundries, washerwomen.

12. Building purposes, per annum.

For brick-work, 10,000 or less	1 00
For brick-work, over 10,000, per thousand	10 00
Plastering, per square yard	01

13. Quantity assessments by estimate or meter measurement, per annum.

For daily average of 2000 gallons or less, per 1000 gallons	25
Daily average of 2000 gallons to 4000 gallons, per 1000 gallons	24
Daily average of 4000 gallons to 6000 gallons, per 1000 gallons	22
Daily average of 6000 gallons to 8000 gallons, per 1000 gallons	20
Daily average of 8000 gallons to 10,000 gallons, per 1000 gallons	18
Daily average over 10,000 gallons, per 1000 gallons	14

14. Manufacturers, artisans, etc., per annum.

For bakeries, per each barrel of flour used	01
* Breweries.	
Barber shops, per each chair	3 00
* Bookbindery.	
* Confectioners.	
* Candle and soap factories.	
* Camphene, spirit, gas or alcohol.	
* Dyers and scourers.	
* Distillers.	
* Foundries.	
* Flouring mills.	
* Fountains.	
Forges, blacksmith's, each	3 00
Forges, steam-hammer	5 00
* Glue factories.	
* Gas works.	
* Hat manufactories.	
* Hands in factories, each.	
1402 * Hospitals, per inmate.	
* Laboratory.	
* Market stalls and stands.	
* Malting, per bushel.	
* Mineral-water factories.	
* Printing offices.	
* Packing-houses, per barrel of meat packed.	
* Planing mills.	
* Rectifying establishments.	
* Railroad locomotives.	

* Assessed.

Steam-engines, per horse-power below 10, each 8 00
Steam-engines, per horse-power above 10, each 6 00
* Slaughter-houses.
* Sugar refineries.
* Starch factories.
* Steam boilers for heating purposes.
* Tanneries, per vat.
* Tobacco factories.
* Vinegar manufactories.
* Washing meat, per 100 pounds washed.
* Cotton presses.

1. Bills rendered by meter measurement payable quarterly in advance, with the addition for rent of meter.

2. Water will be cut off when bills are not paid by the first of March.

3. For purposes not specified in the above tariff, the rate will be assessed by the registrar of water rents, based on inspection and calculation.

4. No fountain or jet will be allowed on any premises where water is not taken for other purposes, and to an extent sufficient for these purposes.

On motion of Mr. Shields, this was amended by inserting at the end of No. 13 as follows:

For	20,000,	per 1,000 gallons	13c.
For	25,000,	" "	12c.
For	30,000,	" "	11c.
For	35,000,	" "	10c.
For	40,000,	" "	09c.
For	50,000,	" "	08c.
For	60,000,	" "	07c.
For	80,000,	" "	06c.
For	100,000,	" "	05c.

All above this amount by contract.

As thus amended, it was unanimously concurred in on each reading, the rules being suspended.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *May* 25, 1869.

The board met in regular session.

President Kearny in the chair, and the following members responding to their names: Messrs. Rose, Aitkens, Walker, Montgomery, Fisher, Morphy, Pandely, Wynne, Farrell and Breen.

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* Assessed.

An ordinance establishing a tariff of water rates, returned by the board of alderman, with various amendments was, on motion, ordered to lie over until next meeting.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *June* 8, 1869.

The board met in regular session.

President Kearny in the chair, and the following members present: Messrs. Rose, Walker, Camp, Grandpre, Fisher, Morphy, Pandely, Wynne, Farrell and Breen.

On motion of Mr. Fisher, the ordinance establishing a tariff of water rates, as amended by the board of aldermen, was made the order of the day for next Tuesday.

1403 The common council.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *June* 16, 1869.

The board met pursuant to adjournment, Mr. Lagan in the chair, and the following gentlemen responding to their names: Messrs. Walker, Camp, Grandpre, Breen, Farrell, Pandely, Pasley, Davis and Barnes.

The reading of the minutes of the previous meeting, 15th inst., was, on motion, dispensed with, there having been no business transacted at that meeting, owing to the absence of a quorum.

(No action on ordinance at this meeting.)

Common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *July* 6, 1869.

The committee on water works made the following report:

Board of assistant aldermen.

CITY HALL, NEW ORLEANS, *June* 25, 1869.

To the board of assistant aldermen.

GENTLEMEN: Your committee of water works have examined the ordinance establishing "water rates" for the city water works, and the rates (are) rather lower than those of the western cities, and in the case of large consumers, 20 per cent., 30 per cent., and in some cases 35 per cent. below those of St. Louis and other cities. In the matter of the amendments of the board of aldermen, with a view to concurrence with that board, your committee recommends the ac-

ceptance of their following additions to part 13 of the ordinance, as follows:

For a daily average over 20,000 gallons ...13 cents per 1000 gallons
For a daily average over 25,000 gallons ...12 cents per 1000 gallons
For a daily average over 30,000 gallons ...11 cents per 1000 gallons

and provided that in no case shall water be furnished at a rate lower than 10 cents per 1000 gallons.

We would mention that we are constrained to this recommendation by the fact that the cost of the water exceeds 10 cents per 1000 gallons.

Your committee recommend that the board of aldermen be requested to reconsider their action in the matter of the other additions in order to enable the promulgation of this very necessary ordinance.

Very respectfully,

WILLIAM DAVIS, *Chairman.*
GERALD FARRELL.
R. WYNNE.
CHAS. STRINGER.

Action upon the ordinance creating a tariff of water rates, accompanying the above report, was before being considered by the board interrupted by the introduction of the following resolution presented by Mr. Lagan:

Be it resolved, That the water rates as at present established remain in force to January 1, 1870.

The above resolution was, after being read, adopted on its several readings.

Messrs. Davis and Wynne recording their votes in opposition to its adoption, and Mr. Pandely being absent during the consideration of the resolution, having just entered, requested to be excused from voting, which request was granted.

Official.

The common council.

Board of aldermen.

Adjourned session.

CITY HALL, NEW ORLEANS, *July* 9, 1869.

The board met at 7 o'clock p. m.

Present: President Wiltz, and Messrs. Brady, Harrisson, McCaffrey, Prados and Shields—6.

1404 From lower board.

The following *were* referred to the finance committee, viz:

Be it resolved. That the water rates, as at present established, remain in force to January 1st, 1870.

Official.

The common council.

Board of aldermen.

CITY HALL, NEW ORLEANS, *July* 20, 1869.

The board met pursuant to adjournment.

Present: President Wiltz, Messrs. Brady, Harrisson, Kaiser, McCaffrey, Poynot and Prados—7.

The following reports were read and accepted:

FINANCE COMMITTEE, ROOM NO. 23, CITY HALL,
NEW ORLEANS, *July* 20, 1869.

To the honorable president and members of the board of aldermen.

GENTLEMEN: Your committee beg leave to report as follows on the different matters referred to them:

On the resolution causing the water rates as at present established to remain in force to January 1, 1870, favorably.

Respectfully submitted.

VICTOR PRADOS,
Chairman Finance Committee.
BENJ. S. HARRISSON.
THOS. R. BRADY.

The following was unanimously concurred in on second reading, the rules being suspended, viz:

Be it resolved, That the water rates as at present established remain in force to January 1st, 1870.

MAYORALTY OF NEW ORLEANS,
CITY HALL, *July* 28, 1869.

(No. 1510, new series.)

Resolved, That the water rates as at present established remain in force to January, 1870.

G. PANDELY,
President Board of Assistant Aldermen.
LOUIS A. WILTZ,
President Board of Aldermen.

Approved July 28, 1869.
(Signed) JOHN R. CONWAY, *Mayor.*

A true copy:
JOHN W. OVERALL, *Secretary.*

MAYORALTY OF NEW ORLEANS,
CITY HALL, *August* 16, 1869.

(No. 1516, new series.)

Whereas, in consideration of the heated term now existing, together with great scarcity of water and the consequent suffering caused

thereby, in part resulting from the inability of many to comply with the excessive charges of water rates; be it

Resolved, That from the 1st day of July, 1869, any or all persons may pay the water rate for the term of six months, in proportion, according to present tariff of water-works commissioners.

(Signed) G. PANDELY,
President of Board of Assistant Aldermen.
LOUIS A. WILTZ,
President Board of Aldermen.

Approved August 6th, 1869.
(Signed) JNO. R. CONWAY, *Mayor.*

A true copy:
JOHN W. OVERALL, *Secretary.*

1405 Common council.

Board of aldermen.

Regular session.

CITY HALL, *November* 2, 1869.

The board convened pursuant to adjournment.

Present: Messrs. Brady, Harrisson, Kaiser, McCaffrey, O'Brien, Poynot, Prados and Shields.

By Mr. Shields:

Resolved, That the commissioners on water works be requested to prepare a tariff of water rates for the ensuing year, and to submit the same for the consideration and action of the common council at as early a day as possible.

Mr. McCaffrey moved to amend by striking out "commissioners" and inserting "committee," instead.

After some discussion, Mr. McCaffrey withdrew his amendment, and the resolution was unanimously adopted on both readings, the rules being suspended.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *November* 2, 1869.

The board met in regular session.

President Pandely presiding, and Messrs. Rose, Walker, Camp, Stringer, Sturcken, Pasley and Farrell present.

The following communication from the superintendent of the water works, together with the weekly statement of cash received and disbursed for the week ending October 30, 1869, was read and referred to the committee on water works:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *November* 1, 1869.

To the honorable the mayor and common council, New Orleans:

By direction of the board of commissioners, it becomes my duty to invite your attention to the fact that the assessments and preparations of bills for "water rent" for the coming year should commence by the first day of December next, otherwise the duty of collection cannot be undertaken in time or properly enforced.

Any change in the tariff of rates which may be contemplated by you, should, therefore, be made by that time.

I am, very respectfully, your obedient servant,

BRAXTON BRAGG,
Superintendent.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *November* 9, 1869.

The board met pursuant to adjournment, President Pandely in the chair, and Messrs. Kearny, Rose, Walker, Davis, Camp, Stringer, Sturcken, Grandpre, Pasley and Farrell present.

From board of aldermen.

The following resolution from the board of aldermen was concurred in:

Resolved, That the commissioners on water works be requested to prepare a tariff of water rates for the ensuing year, and to submit the same for the consideration and action of the common council at as early a day as possible.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *November* 16, 1869.

The board met in regular session. In the absence of Mr. Pandely, Mr. Pasley was called to the chair. Upon a call of the roll, the following gentlemen responded to their names: Messrs. Rose, Walker, Davis, Camp, Stringer, Sturcken, Grandpre and Farrell.

1406 The following communication from the superintendent of the water works was received and referred to its appropriate committee:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *November* 15, 1869.

To the honorable the mayor and common council of New Orleans:

The board of commissioners of the city water works, at their last meeting, prepared the enclosed schedule of water rates for the year

1870, as requested by the joint resolution of the common council, and ordered it submitted.

The schedule for "private supply" is placed in column with the similar rates for Louisville and St. Louis, where water is delivered, as it is here, by steam power. The rates in Louisville are almost identical with those in Cincinnati, and are found, by comparison, to be about the lowest in the United States. The rates proposed for New Orleans, notwithstanding the higher rates charged here for labor, fuel, machinery and other material, are placed below Louisville. This is an experiment, and its success depends entirely upon a rigid administration and upon the present very economical basis of conducting the works.

Should the city determine, however, to have the public supply delivered by the water works, without compensation, a burden not imposed upon other works, then the tariff must be correspondingly increased. So with the interest on the cost price of the works. These two items are provided for contingently in separate columns, and if adopted, will be charged separately in the bills, so that each consumer will know not only what he is paying, but what he is paying it for.

Considering the fact that our people use double the quantity of water, *per capita*, of any other community in this country, as appears from the many returns in this office; these proposed rates will be far below the lowest rates of any similar works.

I am, very respectfully your ob't serv't,

BRAXTON BRAGG,
Superintendent.

The tariff of water rates accompanying the above communication was ordered referred to the committee on water works, on motion of Mr. Davis, who objected to the publication of the same, until revised by the committee.

Official.

The common council.

Board of aldermen.

Adjourned session.

CITY HALL, NEW ORLEANS, *Nov.* 19, 1869.

The board convened, pursuant to adjournment.

Present: Messrs. Wiltz, Brady, Harrisson, Kaiser and Prados—5.

President Wiltz in the chair, stated that the order of the day was to take up for action the ordinances "to establish an uniform rate of taxes and licenses for the year 1870," and also "to establish the water rate for the year 1870."

The following was read and received.

Report of Joint Committee on Water Works.

The committee on water works submit the following report:

NEW ORLEANS, CITY HALL, *November* 18, 1869.

To the honorable the common council.

GENTLEMEN: Your committee on water works, to whom was referred a resolution directing them to report a table of rates for water rents, have examined the rates now being charged and collected by the board of commissioners of the water works, and find them entirely too high, and are a cause of general complaint among consumers of water. These rates are considerable higher than in many other well-regulated cities. We cite Chicago as an instance, as in that city the water is pumped in the same manner as it is done here. We furnish a few of the items of rates for water in Chicago and other cities for the information of the council.

1407 Prices at New Orleans in 1869.

1 or 2 rooms	$8 00
3 or 4 "	10 00
5 or 6 "	12 00
7 or 8 "	14 00
9 or 10 "	16 00
11 or 12 "	18 00
13 or 14 "	20 00
15 or 16 "	22 00
17 or 18 "	24 00
19 or 20 "	26 00
Each additional room	1 00

Prices at Cincinnati.

1 or 2 rooms	$4 00
3 or 4 rooms	5 00
5 or 6 rooms	6 00
7 or 8 rooms	8 00
9 or 10 rooms	10 00
11 or 12 rooms	11 00
13 or 14 rooms	13 00
15 or 16 rooms	14 00
Each additional room	50

Prices at Detroit.

5 rooms	$5 00
6 "	6 00
7 "	7 00
8 "	8 00
10 "	9 00
12 "	10 00
Each additional room	50

Prices at Louisville.

2 rooms	$4 00
4 "	5 00
6 "	6 00
8 "	8 00
10 "	9 00
11 "	10 00
Each additional room	50

Per 1000 gallons.

Cincinnati	15 cents
Louisville	15 cents
Chicago	from 15 cents down to 10 cents

You will observe from the above comparative table of rates that the charges in this city are much above the average in Chicago and other cities. Your committee would ask your special attention to the high price that is charged for water supplied to steam-engines, which is a cause of most onerous taxation on manufactories of all kinds, and has a tendency to depress that kind of industry. Should this state of affairs continue, this class of consumers will undoubtedly return to the use of cisterns and abandon the use of the hydrant. Already the managers of the gas works have laid the necessary pipes and are drawing their water from the new canal, and several distilleries draw their water from the river, and it is reasonable to suppose that many others will do the same. Your committee is of the opinion that the water should be furnished at the lowest possible rates, so as to induce its general use. Your committee, therefore, have the honor to report the following table of rates, and earnestly recommend their adoption.

Very respectfully,

THOS. H. SHIELDS,
Chairman Board of Aldermen.
PETER KAISER.
GERALD FARRELL.
WILLIAM DAVIS,
Chairman Board of Assistant Aldermen.

1408 The following, accompanying the above report, was, on motion of Mr. Harrisson, amended to read as follows:

Whereas, the rate for water rents being so high that they cause much complaint, therefore be it

Resolved, That the following rate for furnishing water to the inhabitants of New Orleans be and is hereby reduced to the following rates:

Reduction of Water Rents as Proposed for 1870.

Private dwellings, per annum:

For 1 or 2	rooms	$5 00
For 3 or 4	"	6 00
For 5 or 6	"	7 00
For 7 or 8	"	9 00
For 9 or 10	"	11 00
For 11 or 12	"	12 00
For 13 or 14	"	15 00
For 15 or 16	"	18 00
For 17 or 18	"	20 00

Houses containing more than 20 rooms to be charged at the rate of 50 cents for each additional room.

Houses occupied by more than one family to be charged at the above rates for one family, and $3.50 for each additional family.

Boarding-houses to pay the same rates as above for houses containing the same number of rooms, and 50 cents for each additional room.

Warm public baths,	per annum	$12 00
Cold public baths,	" "	7 00
Barber wash-stands,	" "	4 00
Barber chairs, each	" "	3 00
Private stables, each stall,	" "	3 00
Livery stables, each stall,	" "	1 50
For each vehicle		1 00
Stock, per head		1 00
Bakers, per barrel of flour		01
For coffee-houses		from $8 00 to 20 00
Restaurants to be assessed.		
Fountains to be assessed.		
Stores, offices and sleeping rooms		7 00
Smiths' shops, for forge		2 00

Steam-engines to be estimated according to size, etc., and for every additional fifty hands, $5.00 per annum, or to be determined by measurement, not to be more than 25 cents per 1000 gallons, and large consumers, using over 200,000 gallons per month, to be charged 15 cents per 1000 gallons; large manufactories, hotels, distilleries, breweries and all other large consumers to pay rates above by assessment or meter.

Special charges for sprinkling streets, watering gardens, etc., to be arranged by the superintendent of the water works.

All ordinances or parts of ordinances conflicting with the provisions of this ordinance are hereby repealed.

Unanimously adopted on both readings, the rules being suspended.

The reading of the communication received from the water works commissioners was, on motion, dispensed with.

Common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *November* 23, 1869.

The board met in regular session. In the absence of President Pandely, Mr. Kearny took the chair, when the following gentlemen, upon the roll being called, responded to their names: Messrs. Kearny, Rose, Walker, Davis, Camp, Stringer, Grandpre and Farrell—8.

Mr. Davis called up the report of the water-works committee, together with the tariff recommended by them, which had been laid over subject to call in the early part of the evening.

1409 *Report of Joint Committee on Water Works.*

The committee on water works submit the following report:

NEW ORLEANS, CITY HALL, *November* 18, 1869.

To the honorable the common council.

GENTLEMEN: Your committee on water works, to whom was referred a resolution directing them to report a table of rates for water rents, have examined the rates now being charged and collected by the board of commissioners of the water works, and find them entirely too high, and are a cause of general complaint among consumers of water. These rates are considerable higher than in many other well-regulated cities. We cite Chicago as an instance, as in that city the water is pumped in the same manner as it is done here. We furnish a few of the items of rates for water in Chicago and other cities for information of the council.

Prices at New Orleans in 1869.

1 or 2	rooms	$8 00
3 or 4	"	10 00
5 or 6	"	12 00
7 or 8	"	14 00
9 or 10	"	16 00
11 or 12	"	18 00
13 or 14	"	20 00
15 or 16	"	22 00
17 or 18	"	24 00
19 or 20	"	26 00
Each additional room		1 00

Prices at Cincinnati.

1 or 2 rooms	$4 00
3 or 4 "	5 00
5 or 6 "	6 00
7 or 8 "	8 00
9 or 10 "	10 00
11 or 12 "	11 00
13 or 14 "	13 00
15 or 16 "	14 00
Each additional room	50

Prices at Detroit.

5 rooms	$5 00
6 "	6 00
7 "	7 00
8 "	8 00
10 "	9 00
12 "	10 00
Each additional room	50

Prices at Louisville.

2 rooms	$4 00
4 "	5 00
6 "	6 00
8 "	8 00
10 "	9 00
11 "	10 00
Each additional room	50

Per 1000 gallons.

Cincinnati	15 cents
Louisville	15 cents
Chicago	from 15 cents down to 10 cents

You will observe from the above comparative table of rates that the charges in this city are much above the average in Chicago and other cities. Your committee would ask your special attention to the high price that is charged for water supplied to steam-engines, which is a cause of most onerous taxation on manufactories of all kinds, and has a tendency to depress that kind of in-
1410 dustry. Should this state of affairs continue, this class of consumers will, undoubtedly, return to the use of cisterns and abandon the use of the hydrant. Already the managers of the gas works have laid the necessary pipes and are drawing their water from the new canal, and several distilleries draw their water from the river, and it is reasonable to suppose that many others will do the same. Your committee is of the opinion that the water should be furnished at the lowest possible rates, so as to induce its general

use. Your committee, therefore, have the honor to report the following table of rates, and earnestly recommend their adoption.

Very respectfully,

THOS. H. SHIELDS,
Chairman Board of Aldermen.
PETER KAISER,
GERALD FARRELL,
WILLIAM DAVIS,
Chairman of Board of Assistant Aldermen.

Whereas, the rate- for water rents are so high that they cause much complaint; therefore be it

Resolved, That the *following* rate for furnishing water to the inhabitants of New Orleans be and is hereby reduced to the following rate:

Reduction of Water Rents as Proposed for 1870.

Private dwellings, per annum.

For 1 or 2 rooms	$5 00
For 3 or 4 "	6 00
For 5 or 6 "	7 00
For 7 or 8 "	9 00
For 9 or 10 "	11 00
For 11 or 12 "	12 00
For 13 or 14 "	15 00
For 15 or 16 "	18 00
For 17 or 18 "	20 00

Houses containing more than 20 rooms to be charged at the rate of 50 cents for each additional room.

Houses occupied by more than one family to be charged at the above rates for one family, and $3.50 for each additional family.

Boarding-houses to pay the same rates as above for houses containing the same number of rooms, and 50 cents for each additional room.

Warm public baths, per annum	$12 00
Cold public baths, "	7 00
Barber wash-stands, "	4 00
Barber chairs, each, "	3 00
Private stable, each stall, "	3 00
Livery stable, each stall, "	1 50
For each vehicle	1 00
Stock, per head	1 00
Bakers, per barrel of flour	01
For coffee-houses	from $8 00 to 20 00
Restaurants to be assessed.	
Fountains to be assessed.	
Stores, offices and sleeping-rooms	7 00
Smiths' shops, for forge	2 00

Steam-engines to be estimated according to size, etc., and for every additional fifty hands, $5.00 per annum, or to be determined by measurement, not to be more than 25 cents per 1000 gallons, and large consumers, using over 200,000 gallons per month, to be charged 15 cents per 1000 gallons. Large manufactories, hotels, distilleries, breweries, and all other large consumers to pay at the rate as above by assessment or by meter.

Special charges for sprinkling streets, watering gardens, etc., to be arranged by the superintendent of water works.

All ordinances or parts of ordinances conflicting with the provisions of this ordinance are hereby repealed.

1411 After considerable debate on the subject, the whole matter was recommitted to the water-works committee.

On motion of Mr. Davis, Messrs. Barnes and Pasley were added to the committee.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *December* 8, 1869.

The board met in extra session, pursuant to adjournment, Mr. Breen in the chair, and Messrs. Kearny, Davis, Camp, Stringer, Sturcken, Barnes, Pasley and Farrell present.

The reading of the minutes of last meeting was, on motion, dispensed with.

Under suspension of the rules, the report of the committee on water works, together with the ordinance accompanying the report, were read as follows:

NEW ORLEANS, *November 30th*, 1869.

To the president and members of the common council.

GENTLEMEN: Your committee on water works have the honor to report that, after carefully examining the tariff of water rates, which was recommitted to them at the last meeting of your honorable body, beg leave to offer the accompanying revised tariff as a substitute, and recommend the same for adoption.

Respectfully, etc.,

THOS. H. SHIELDS, *Chairman.*
PETER KAISER.
GERALD FARRELL.
WILLIAM DAVIS.
O. POYNOT.
SAMUEL BARNES.

Tariff of Water Rates as Proposed for 1870.

1. Private dwellings.

For 4 rooms or less	$6 00
5 or 6	7 00
7 or 8	8 00

9 or 10	9 00
11 or 12	10 00
13 or 14	11 00
15 or 16	12 00
17 or 18	13 00
19 or 20	14 00
Each room above 20	50
Boarding-houses and boarding schools, for each room	1 50
Houses occupied by more than one family, to be charged for each family, over and above one	3 00
Day schools, dwelling rates, and for each pupil	10

2. Hotels.

3. Stores, shops, etc.

For wholesale and retail stores and shops	$3 00 to 15 00
Offices and lodging-rooms	1 50 to 15 00

4. Saloons, etc.

*For coffee-houses	10 00 to 75 00
*Eating-houses and restaurants	10 00 to 100 00
*Lager beer and ice cream	10 00 to 100 00
Billiard saloons, per table	4 00
Bowling saloons, per alley	4 00
*Gambling saloons	25 00 to 100 00

5. Stables, per stall of five feet measurement (over in proportion).

For livery and sale and street railroad, per stall	2 00
Livery and street railroad, each wheeled vehicle or car	1 50
1412 Private stable, for each horse or mule	2 00
Private stable, for each cow or head of cattle	1 00
Private stable for each carriage, buggy or vehicle	1 50
Government stable, for each stall	2 00
Stock yard, per head of stock	1 25

6. Hose attachments.

For sprinkling streets and washing sidewalks, steps, windows and fronts of lots, not over 25 feet front	5 00
Each additional foot front	10

Corner lots both fronts charged.

For sprinkling private yards and gardens and washing walks in the same, per 100 square yards	50
For sprinkling public or pleasure gardens, per 100 square yards	1 50
†For street-sprinkling cart, per square of 300 feet	12 00
For protection against fire when rented for no other purpose, per fire-plug	75 00

*Assessed.

†Contractor puts in his own plug and keeps it in order.

7. Baths.

For private dwelling, cold bath, each	4 00
For private dwelling, warm bath, each	6 00
For hotels, boarding-houses, hospitals and public bath-houses, cold bath, each	8 00
For hotels, boarding-houses, hospitals and public bath-houses, warm bath, each	12 00

8. Water-closets.

For private dwellings, stores and offices, each	4 00
For hotels, boarding-houses, hospitals, saloons, manufactories and all other public places, each	8 00

(None but self-closing allowed.)

9. Urinals.

For private dwellings, stores and offices, each	2 00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each	7 00

For constant flow charge will be made by meter or calculation.

10. Stationary wash-basin.

For private dwellings, stores and offices, each	3 00
For hotels, boarding-houses, hospitals, saloons, barber shops, manufactories, and all other public places	3 00

11. Kitchen and laundries.

For slop sink with draw	3 00
For each additional	1 00
For wash-tub with draw, each	1 00

*Laundries, washerwomen, etc.

12. Building purposes.

For brick-work, 10,000 or less	1 00
Over 10,000, per thousand	10
Plastering, per square yard	01

13. Quantity assessments.

For a daily average of 2000 gallons or less, per 1000 gallons	25
For daily average of 2000 gallons to 4000 gallons, per 1000 gallons	23
For daily average of 4000 gallons to 6000 gallons, per 1000 gallons	21
For daily average of 6000 gallons to 8000 gallons, per 1000 gallons	19
For daily average of 8000 gallons to 10,000 gallons, per 1000 gallons	17
For daily average over 10,000 gallons, per 1000 gallons	15

*Assessed.

1413 For use of the meter when supplied by the works:

4-inch, 1 cent per 1000 gallons.
3-inch, 1½ cents per 1000 gallons.
2-inch, 2 cents per 1000 gallons.
1¼-inch, 2½ cents per 1000 gallons.
1-inch, 3 cents per 1000 gallons.
⅝-inch, 3½ cents, per 1000 gallons.

14. Manufacturers, artisans, etc.

For bakeries, per each barrel flour used..... 02
*For breweries, per barrel beer made.
*Per ditto washed.
*Book-bindery.
*Confectioners.
*Candle and soap factories.
*Camphene spirit.
*Gas or alcohol.
*Dyers and scourers.
*Distillers.
*Foundries.
*Flouring mills.
*Fountains.
Forges, blacksmiths, each..... 3 00
*Glue factories.
*Gas works.
*Hat manufactories.
*Hands in factories, each.
*Hospitals, per inmate.
*Laboratory.
*Market, stalls and stands.
*Malting, per bushel.
*Mineral-water factories.
*For printing offices.
*For packing-houses, per barrel of meat packed.
*For planing mills.
*For rectifying establishments.
For railroad locomotives, per daily trip..... $50 00 to 75 00
For steam-engines, per horse-power 6 00
*For slaughter-houses.
*For sugar refineries.
*For starch factories.
*For steam boilers for heating purposes.
*For tanneries, per vat.
*For tobacco factories.
*For vinegar factories.
*For washing meat, per 100 — washed.
*For cotton presses.

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*Assessed.

For purposes not specified in the above tariff, the rate shall be assessed by the registrar of water rents, based on inspection and calculation.

In connection with the consideration of the subject involved in the above report and ordinance, the secretary was directed to read the following communication from the office of the city water works:

OFFICE CITY WATER WORKS,
NEW ORLEANS, *December* 3, 1869.

Extract from the Minutes.

On motion the following preamble and resolution were unanimously adopted by the board:

The mayor and common council of the city having been notified on the first of November, 1869, under the instruction of this board, that any proposed change in the tariff of water rates should be made by the first of December, and not having acted,

Resolved, That the following shall be the rates for the year 1870, and until such time as they may be amended or abolished by competent authority.

A true copy:

S. E. PERCY, *Secretary.*

1414 After a prolonged debate, upon a motion of Mr. Barnes to substitute, in lieu of the tariff of water rates submitted by the joint committee of the common council, the rates transmitted by the commissioners of the water works, recommended by that body for adoption, it was decided to adhere to the report of the joint committee, when, on motion of Mr. Pasley, the ordinance establishing a tariff of water rates for the year 1870, as it appears above, was adopted on its several readings by the following vote:

Yeas: Messrs. Davis, Camp, Stringer, Sturcken, Pasley and Farrell.

Nays: Messrs. Kearny, Barnes and Breen.

The secretary was, on motion, directed to transmit the ordinance so adopted to the board of aldermen, for concurrence, in time for their consideration at the adjourned meeting, to be held by that body on the 9th instant.

Board of aldermen.

Adjourned session.

CITY HALL, NEW ORLEANS, *December* 9, 1869.

The board convened pursuant to adjournment.

Present: Messrs. Wiltz, Brady, Harrisson, Kaiser, McCaffrey, O'Brien, Prados and Shields—8.

President Wiltz in the chair, stated the special order to be to take up for concurrence from board of assistant aldermen the ordinance establishing a tariff of water rates for 1870.

The ordinance was read.

Mr. McCaffrey moved to amend by erasing the whole of section 13, and inserting instead thereof the words "For a daily average of 2000 gallons or more, per 1000 gallons, 20 cents."

Adopted by the following vote:

Yeas: Messrs. Wiltz, Brady, Harrisson, McCaffrey—4.

Nays: Mr. Kaiser—1.

The following ordinance, as amended, was then unanimously concurred in on both readings, the rules being suspended.

Tariff of Water Rates as Proposed for 1870.

1. Private dwellings.

For 4 rooms or less	$6 00
5 or 6	7 00
7 or 8	8 00
9 or 10	9 00
11 or 12	10 00
13 or 14	11 00
15 or 16	12 00
17 or 18	13 00
19 or 20	14 00
Each room above 20	50
Boarding-houses and boarding schools, for each room	1 50
Houses occupied by more than one family to be charged for each family over and above one	3 00
Day schools, dwelling rates, and for each pupil	10

2. * Hotels.

3. Stores, shops, etc.

For wholesale and retail stores and shops	$3 00 to 15 00
Offices and lodging-rooms	1 50 to 15 00

4. Saloons, etc.

*For coffee-houses	10 00 to 75 00
*Eating-houses and restaurants	10 00 to 100 00
*Lager beer and ice cream	10 00 to 100 00
Billiard saloons, per table	4 00
Bowling saloons, per alley	4 00
*Gambling saloons	25 00 to 100 00

5. Stables, per stall of 5 feet measurement (over in proportion).

	For livery and sale and street railroad, per stall	2 00
1415	Livery and street railroad, each wheeled vehicle or car	1 50
	Private stable for each horse or mule	2 00
	Private stable for each cow or head of cattle	1 00
	Private stable for each carriage, buggy or vehicle	1 50
	Government stable for each stall	2 00
	Stock yard, per head of stock	1 25

* Assessed.

6. Hose attachments.

For sprinkling streets and washing sidewalks, steps, windows, and fronts of lots, not over 25 feet front	5 00
For each additional foot front	10

Corner lots both fronts charged.

For sprinkling private yards and gardens and washing walks in the same per 100 square yards	50
For sprinkling public or pleasure gardens, per 100 square yards	1 50
For street-sprinkling cart, per square of 300 feet	12 00
For protection against fire, when rented for no other purpose, per fire-plug	75 00

A contractor puts in his own plug and keeps it in order.

7. Baths.

For private dwellings, cold bath, each	4 00
For private dwellings, warm bath, each	6 00
For hotels, boarding-houses, hospitals and public bath-houses, cold bath, each	8 00
For hotels, boarding-houses, hospitals and public bath-houses, warm bath, each	12 00

8. Water-closets.

For private dwellings, stores and offices, each	4 00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each	8 00

(None but self-closing allowed.)

9. Urinals.

For private dwellings, stores, and offices, each	2 00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each	7 00

For a constant flow, charge will be made by meter or calculation.

10. Stationary wash-basins.

For private dwellings, stores and offices, each	3 00
For hotels, boarding-houses, hospitals, saloons, barber shops, manufactories, and all other public places	3 00

11. Kitchen and laundries.

For slop sink, draw	3 00
For each additional	1 00
For wash-tub, with draw, each	1 00

* Laundries, washerwomen, etc.

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* Assessed.

12. Building purposes.

For brick-work, 10,000 or less..	1 00
Over 10,000, per thousand	10
Plastering, per square yard	01

13. Quantity assessments.

For daily average of 2000 gallons or more, per 1000 gallons..	20

For use of meter when supplied by the works:

4-inch, 1 cent per 1000 gallons.
3-inch, 1½ cents per 1000 gallons.
2-inch, 2 cents per 1000 gallons.
1¼-inch, 2½ cents per 1000 gallons.
1-inch, 3 cents per 1000 gallons.
¾-inch, 3½ cents per 1000 gallons.

14. Manufacturers, artisans, etc.

For bakeries, per each barrel flour used	02

1416 * For breweries, per bbl. beer made.
* Per ditto washed.
* Book-bindery.
* Confectioners.
* Candle and soap factories.
* Camphene spirit.
* Gas or alcohol.
* Dyers and scourers.
* Distillers.
* Foundries.
* Flouring mills.
* Fountains.

Forges, blacksmith, each	3 00

* Glue factories.
* Gas works.
* Hat manufactories.
* Hands in factories, each.
* Hospitals, per inmate.
* Laboratory.
* Markets, stalls and stands.
* Malting, per bushel.
* Mineral-water factories.
* For printing offices.
* For packing-houses, per barrel of meat packed.
* For planing mills.
* For rectifying establishments.

For railroad locomotives, per daily trip	$50 00 to 75 00
For steam-engine, per horse-power	6 00

* Assessed.

* For slaughter-houses.
* For sugar refineries.
* *For starch factories.*
* For steam boilers for heating purposes.
* For tanneries, per vat.
* For tobacco factories.
* For vinegar manufactories.
* For washing meat, per 100 washed.
* For cotton presses.

For purposes not specified in the above tariff, the rate shall be assessed by the registrar of water rents, based on inspection and calculation.

Mr. Kaiser gave notice that he would move for a reconsideration at the next meeting, which, however, was subsequently withdrawn.

Common council.

Board of assistant aldermen.

Regular session.

CITY HALL, *December* 14, 1869.

The board met in regular session, President Pandely in the chair, and Messrs. Kearny, Walker, Davis, Stringer, Sturcken, Pasley, Farrell and Breen present.

The reading of the minutes was, on motion, dispensed with.

The tariff of water rates was here taken up, under suspension of the rules, and the amendment of the board of aldermen to section 13, entitled quantity assessments, concurred in. A further amendment by Mr. Pasley, under section 4, to reduce the charge on billiard tables to $2.00 per table, instead of $4.00, was adopted, and the ordinance as amended was ordered transmitted to the board of aldermen for concurrence in the amendment of Mr. Pasley.

1417 *Tariff of Water Rates as Proposed for* 1870.

1. Private dwellings.

For 4 rooms or less	$6 00
5 or 6	7 00
7 or 8	8 00
9 or 10	9 00
11 or 12	10 00
13 or 14	11 00
15 or 16	12 00
17 or 18	13 00
19 or 20	14 00
Each room above 20	50
Boarding-houses and boarding-schools, for each room	1 50
Houses occupied by more than one family to be charged for each family over and above one	3 00
Day schools, dwelling rates, and for each pupil	10

* Assessed.

2. *Hotels.

3. Stores, shops, etc.

For wholesale and retail stores and shops	$3 00 to 15 00
Offices and lodging-rooms	1 50 to 15 00

4. Saloons, etc.

*For coffee-houses	10 00 to 75 00
*Eating-houses and restaurants	10 00 to 100 00
*Lager beer and ice cream	10 00 to 100 00
Billiard saloons, per table	2 00
Bowling saloons, per alley	4 00
*Gambling saloons	25 00 to 100 00

5. Stables, per stall of 5 feet measurement (over in proportion).

For livery and sale and street railroad, per stall	2 00
Livery and street railroad, each wheeled vehicle or car	1 50
Private stable for each horse or mule	2 00
Private stable, for each cow or head of cattle	1 00
Private stable, for each carriage, buggy, or vehicle	1 50
Government stable, for each stall	2 00
Stock yard, per head of stock	1 25

6. Hose attachments.

For sprinkling streets and washing sidewalks, steps, windows, and fronts of lots, not over 25 feet front	5 00
For each additional foot front	10

(Corner lots, both fronts charged.)

For sprinkling private yards and gardens and washing walks in the same, per 100 square yards	50
For sprinkling public or pleasure gardens, per square yard	1 50
†For street-sprinkling cart, per square of 300 feet	12 00
For protection against fire, when rented for no other purpose, per fire-plug	75 00

7. Baths.

For private dwellings, cold bath, each	4 00
For private dwellings, warm bath, each	6 00
For hotels, boarding-houses, hospitals and public bath-houses, cold bath, each	8 00
For hotels, boarding-houses, hospitals and public bath-houses, warm bath, each	12 00

*Assessed.
†Contractor puts in his own plug and keeps it in order.

8. Water-closets.

For private dwellings, stores, and offices, each 4 00
For hotels, boarding-houses, hospitals, saloons, manufactories, and all other public places, each 8 00

(None but self-closing allowed.)

9. Urinals.

For private dwellings, stores and offices, each 2 00
1418 For hotels, boarding-houses, hospitals, saloons, manufactories and all other public places, each.....$7 00

For a constant flow, charge will be made by meter or calculation.

10. Stationary wash-basins.

For private dwellings, stores and offices, each..... 3 00
For hotels, boarding-houses, hospitals, saloons, barber shops, manufactories and all other public places..... 3 00

11. Kitchen and laundries.

For slop sink with draw..... 3 00
For each additional..... 1 00
For wash-tub with draw, each..... ..... 1 00
*Laundries, washerwomen, etc.

12. Building purposes.

For brick-work, 10,000 or less..... 1 00
Over 10,000, per 1,000..... 10
Plastering, per square yard..... 01

13. Quantity assessments.

For a daily average of 2000 gallons or more..... 20

For use of the meter when supplied by the works:

4-inch, 1 cent per 1000 gallons.
3-inch, 1½ cents per 1000 gallons.
2-inch, 2 cents per 1000 gallons.
1½-inch, 2½ cents per 1000 gallons.
1-inch, 3 cents per 1000 gallons.
⅝-inch, 3½ cents per 1000 gallons.

14. Manufacturers, artisans, etc.

For bakeries, each barrel flour used..... 02
*For breweries, per barrel beer made.
Per ditto, washed.
*Book-bindery.

* Assessed.

*Confectionery.
*Candle and soap factories.
*Camphene spirit.
*Gas or alcohol.
*Dyers and scourers.
*Distillers.
*Foundries.
*Flouring mills.
*Fountains.
Forges, blacksmiths', each..... 3 00
*Glue factories.
*Gas works.
*Hat manufactories.
*Hands in factories, each.
*Hospitals, per inmate.
*Laboratory.
*Market stalls and stands.
*Malting, per bushel.
*Mineral-water factories.
*For printing offices.
*For packing-houses, per barrel of meat packed.
*For planing mills.
*For rectifying establishments.
For railroad locomotives, per daily trip.....$50 00 to 75 00
For steam-engines, per horse-power..... 6 00
*For slaughter-houses.
*For sugar refineries.
*For starch factories.
*For steam boilers for heating purposes.
*For tanneries, per vat.
*For tobacco factories.
*For vinegar manufactories.
*For washing meat, per 100 washed.
*For cotton presses.

1419 For purposes not specified in the above tariff, the rate shall be assessed by the registrar of water rents, based on inspection and calculation.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *December* 17, 1869.

The board met pursuant to adjournment, President Pandely in the chair, and Messrs. Kearny, Davis, Stringer, Barnes, Farrell and Breen present.

No quorum.

A recess of ten minutes was here taken to allow absent members

*Assessed.

to arrive, at the expiration of which time the roll was again called, with the same result.

In the absence of a quorum, the board, on motion of Mr. Breen, adjourned, to meet on Saturday, the 18th instant, at 7 o'clock p. m.

JOHN TOBIN, *Secretary.*

CITY HALL, NEW ORLEANS, *December* 18, 1869.

The board met, pursuant to adjournment, President Pandely in the chair, and present, Messrs. Kearny, Davis, Camp, Stringer, Sturcken, Barnes, Pasley, Farrell and Breen—10.

The reading of the minutes was, on motion of Mr. Pasley, dispensed with.

Messrs. Sturcken and Camp here retired.

Mr. Davis here moved a reconsideration of the vote by which the tariff of water rates *had*, after being concurred in as amended by the *the* board of aldermen, subsequently reamended by this board, and moved to recede therefrom, and that the ordinance be maintained as it came from the board of aldermen.

Adopted.

The common council.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *December* 30, 1869.

The board met in extra session convened by direction of Mayor John R. Conway. President Pandely in the chair, and Messrs. Camp, Farrell, Fish, Grandpre, Kearny, Pemberton, Reggio, Staes, Sturcken, Walker, Wynne and Walsh present.

STATE OF LOUISIANA,
MAYORALTY OF NEW ORLEANS,
CITY HALL, *December* 28, 1869.

To the honorable the common council.

GENTLEMEN: I return herewith without my approval, on ordinance entitled "Tariff of water rates as proposed for 1870."

In my communication to your honorable boards dated July 13th and September 10th, returning ordinances for the transfer of the water-works fund from the hands of the commissioners to the then fiscal agent, I detailed at length the repairs absolutely necessary in order to keep up the supply of water for the extinguis-ment of fires and enhancement of the sanitary condition of the city, together with the purchase of coal and other essential material. I have now only to call your attention to the following report of the superintendent and board of commissioners.

Copy.

"OFFICE CITY WATER WORKS,
NEW ORLEANS, *December* 22, 1869.

Board of commissioners city works.

GENTLEMEN: Your attention is specially invited in advance of my annual report to the very insecure condition of parts of these works, threatening disaster, which may deprive the city of water.

1420 1st. The boilers for running the heavy pumping machinery are quite old, and badly burned. They have been patched until it is dangerous to rely on them.

2d. The engine-house over the old pair of engines is in a very precarious condition—liable to fall at any moment, and may cause a loss of life in addition to the destruction of very valuable machinery.

3d. The reservoirs for water storage upon which the night consumption depends, are in very bad condition, requiring prompt and extensive repairs. It is dangerous to fill them, owing to the serious and numerous leaks. They are old and the cement and brick work never very well laid—is much decayed and softened by time and use.

These three works of pressing importance will involve an expenditure of from $25,000.00 to $30,00-.00.

I am, very respectfully,
Your obedient servant,
(Signed) BRAXTON BRAGG,
Superintendent."

In addition to which more pressing demands have absorbed the revenue during the current year, as not more than $7,000.00 will remain over. This fact alone is in itself a sufficient vindication of my course in preventing the division of the funds from their appropriate use. For had it been done in compliance with the persistent demands of the late fiscal agent, and which the executive veto alone prevented, we should have added to our financial embarrassment the necessity of stopping the supply of water for the extinguishment of fires and for sanitary purposes, or been forced to the humiliating position of begging in the market for supplies to carry on the works.

The tariff adopted by the council, and now returned, reduces the present rates fully 40 per cent. It is not uniform, and is besides 60 per cent. below the tariff of the old company in most cases. The revenue under its operation will only pay current expenses and ordinary repairs. It will not suffice to pay $1.00 of interest on the outstanding bonds, or lay down a foot of pipe, or put down one extra fire-well, or other improvements, and, of course, cannot meet the expenditures necessary for the works reported by the superintendent to the board of commissioners.

While it should be the desire of the council to adjust a tariff not only uniform, but at rates which the poorest consumer would not

object to, it should also be borne in mind that the interest on the outstanding bonds will have to be met in part by the people of the districts to which water has not extended, as well as those in other districts who are in the enjoyment of its benefits, both to person as well as property.

In view of our present condition, prudence would at least dictate the adoption of a tariff looking to meeting interest, current expenses and ordinary repairs the coming year. The management of the works by the present able superintendent and board of commissioners has been wise and economical, and in continuing to leave them under such able control, in co-operation with the committee on water works, the interest of the city in this particular will be but protected.

Respectfully, etc., JOHN R. CONWAY, *Mayor.*

Sheriff Maxwell was here announced, who informed the board that he held a document from the fifth district court, ordering him to extrude from the board of assistant aldermen Messrs. Rose, Lagan, Davis, Stringer, Barnes, Breen and Pasley, which was done.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *January* 11, 1870.

The committee on water works reported as follows:

NEW ORLEANS, *January* 11, 1870.

To the president and members of the common council.

GENTLEMEN: Your committee have the honor to report
1421 that in the absence of any ordinance of the common council providing for the government of the "city water works," they have prepared, after mature deliberation, the accompanying ordinance, which is respectfully submitted for your consideration and approval.

Respectfully, etc.,

THOMAS H. SHIELDS,
Chairman Board of Aldermen.
C. CAMP,
Chairman Board of Assistant Aldermen.
W. H. PEMBERTON.
O. POYNOT.
JOHN R. CLAY.
H. F. STURKEN.

The ordinance accompanying the above report was read, as follows:

An ordinance providing for the proper management and administration of the city water works.

SECTION 1. *Be it ordained by the common council of the city of New Orleans,* That the water-works committee of the two boards of

the common council, to be composed of four members of the board of aldermen and four members of the board of assistant aldermen, be and are hereby invested with full authority and all such powers as are necessary to the due and proper management and administration of the city water works, acquired by the city of New Orleans from the Commercial Bank of New Orleans, by an act passed before A. Hero, Jr., on 19th January, 1869, and to this end and purpose are hereby authorized and empowered to enter into and take possession of the said water works and all property and appurtenances thereunto belonging; employ, dismiss or suspend such officers, clerks and laborers as may be requisite, and fix the wages or salaries of all clerks and employés, with the advice and consent of the common council; to make such by-laws, rules and regulations as may be found necessary; to examine and audit any bills, warrants, requisitions, claims, pay-rolls or demand of any nature whatsoever arising out of the conducting and carrying on of said water works, and generally to do and perform all and every act and thing whatsoever requisite to the proper conducting and carrying on of said water works.

SEC. 2. *Be it further ordained*, That the chairman of said committee shall sign and approve all bills, accounts, warrants, requisitions or other evidences of claims or contracts by, against, or with said water works, as well as sign all warrants upon the city treasurer, and certify all matters requiring signature.

SEC. 3. *Be it further ordained, etc.*, That the said committee shall elect a secretary, whose duty it shall be to keep such books, under the advice and direction of said committee, as may be deemed necessary; collect and receive all revenues arising from said water works, and report and pay over the same daily unto the city treasurer; keep an account of and enter in proper books all checks, warrants or requisitions drawn or given by authority of said water-works committee; to conduct, under the direction of said committee, all correspondence, and generally do and perform all duties and services requisite to the keeping of the books, papers and other business of said water works. He shall report monthly to the common council the condition of the affairs of said board.

SEC. 4. *Be it further ordained etc.*, That the city treasurer shall act as treasurer of all moneys arising out of said water works, receive the same from the secretary of the water-works committee and deposit them in such bank as may be the daily depository of the city under the style and to the credit of the "water-works fund," said city treasurer shall keep all such moneys paid over to him apart and separate from any other funds belonging to the
1422 city of New Orleans and enter the same in books to be kept especially therefor under the style of "the water-works fund," and shall only pay out the same by checks on such depository on warrants signed by the city controller and countersigned by the chairman of said water-works committee; shall keep cash and check books relative to this fund, in the manner prescribed by the city charter for other city funds, and preserve all warrants and evi-

dences of claims against said water works paid by him; it shall also be his duty to make a detailed report of the condition of said fund monthly to said water-works committee, and to the common council, which report shall be examined and checked with the books of said secretary of the water works by said secretary. All books and papers relative to said fund in the hands of or kept by said city treasurer shall, at all times, be kept open to the inspection of said water-works committee.

SEC. 5. *Be it further ordained*, That all ordinances and parts of ordinances intrusting said water works to the management of other persons, or in any manner conflicting with the provisions of this ordinance be and the same are hereby repealed.

Be it further ordained, etc., That this ordinance shall take effect from and after its passage.

A motion by Mr. Camp to adopt the above ordinance was made but not put, when, on motion of Mr. Pandely, it was ordered printed and laid over until a future meeting.

Board of assistant aldermen.

Extra session.

CITY HALL, NEW ORLEANS, *January* 5, 1870.

Mr. Camp moved that the board go into committee of the whole for the purpose of considering the tariff of water rates for the year 1870, vetoed by the mayor. The vote was had standing, resulting in five yeas to eight nays. So the motion of Mr. Camp was declared lost.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *January* 11, 1870.

The veto message of the mayor on the subject of an ordinance entitled "Tariff of water rates, as proposed for 1870," was, on motion of Mr. Pandely, called from the table, and, after having been read, the ordinance was taken up as returned by the mayor, and on motion it was persisted in, the mayor's veto to the contrary notwithstanding, by a vote of thirteen yeas to one nay, Messrs. Fish, Carter, Camp, Casanove, Farrell, Grandpre, Pandely, Pemberton, Staes, Sturcken, Walker, Wynne and Walsh voting in the affirmative, and Mr. Kearny voting in the negative.

The ordinance was hereupon declared to have passed over the mayor's veto by the required two-thirds vote.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *January* 11, 1870.

From board of assistant aldermen.

The tariff and water rates for the year 1870, vetoed by the mayor and passed over the veto by the board of assistant aldermen, and

sent up for concurrence in their action, was read by title, and, on motion, laid over, subject to call.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *January* 18, 1870.

The tariff of water rates, as proposed for the year 1870, vetoed by the mayor, and passed over the veto by the board of assistant aldermen, and by them sent up for concurrence in their action, was, on motion, referred to the committee on water works, with instructions to report next meeting.

1423 Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *March* 8, 1870.

Mr. Prados moved that the "tariff of water rates for the year 1870," vetoed by the mayor, and passed over the veto by the board of assistant aldermen, and by them sent up for concurrence on the 11th January, 1870, and by this board referred to the committee on water works, be withdrawn from that committee.

Carried.

The "tariff of water rates for the year 1870," as concurred in by this board on the 9th day of December, 1869, and published in the minutes of that date, was taken up for action, and its passage unanimously persisted in on both readings, under suspension of the rules, the mayor's veto to the contrary notwithstanding.

Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *March* 15, 1870.

The following was read, and, on motion, referred to the committee on water works, to report next meeting, if practicable:

To his honor the mayor and common council, New Orleans.

GENTLEMEN: From the proceedings of the board of aldermen, as published in the official journal of this morning, it appears the common council has passed an ordinance over the mayor's veto, changing the tariff of water rates.

As this tariff is to be put in operation when officially promulgated, the board of commissioners of these works have directed me to call your attention to the serious difficulties which must arise under its operation.

On the first of November last you were informed "that the assessments and preparation of bills for 'water rent' for the coming year should commence by the first day of December next," and that "any change in the tariff of rates which may be contemplated by you

should, therefore, be made by that time." No action having been taken by the common council, the board of commissioners on the third December, 1869, adopted the tariff now in force, and proceeded to assess and collect the rates.

The assessments and bills have all been made under this tariff for the current year. All were due on the first day of January last, official notice of which was given for ten days in the public prints of the city, and up to this date largely more than half the bills have been paid.

Under these circumstances several grave questions arise as to how a change of tariff is to operate.

1. Shall it go into effect immediately?
2. If so, is it to have any retroactive effect?
3. If retroactive, does it work a change of bills not paid only, or does it apply to those already paid?
4. As the money collected under the present tariff has already been appropriated by you to pay interest on the water-works bonds, how can it be refunded?

However these questions may be answered, serious embarrassment must result. To change the bills already made, but not collected, will require much time and labor, and will greatly mar the records. The two tariffs do not differ materially in the rates charged, but the details are such that nearly every bill, of some eight thousand, must be altered. In the case of large consumers—manufacturers, hotels, etc.,—there will be a considerable increase, and great complaint must be expected. The final result, difference on the gross amount of bills, will be very small. In view of all the difficulties surrounding the matter, it is respectfully suggested that the proposed tariff shall take effect only at the expiration of the present fiscal year of the water works, thirtieth September, 1870.

I am, gentlemen,

Very respectfully, your obedient servant,

A. W. BOSWORTH,

President Board of Commissioners, City Water Works.

1424 Board of aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *February* 15, 1870.

The following was laid over, subject to call:

Whereas, manifest injustice, and, to say the least, a tyrannical abuse of power has characterized, in many instances, the conduct of some of the persons engaged in the management of the water works of this city, thereby entailing needless losses on good and honest citizens, and by their official action violating every rule of justice and common sense, rendering the city liable for damages, and

Whereas, a dispute has arisen between Adam Thomson & Co. and the superintendent of the water works, in which Messrs. Thomson & Co. ask simply for an honest adjustment of the claim made against them by the said superintendent; therefore, be it

Resolved, That the matter of the dispute between Adam Thomson & Co. and the city water works be and it is hereby referred to the joint water-works committee, with full power to act in the premises, and the superintendent of the said works is hereby directed to obey such orders as the said committee may deem proper to issue to him in the aforementioned premises.

City council.

Regular session.

CITY HALL, NEW ORLEANS, *April* 12, 1870.

Mr. L. T. Delasize, administrator of water works, offered the following report, which was likewise read and laid over:

Office of administrator of water works and public buildings.

CITY HALL, *April* 12, 1870.

To the honorable the president and members of the city council.

GENTLEMEN: Having carefully examined the city water works, with all buildings, machinery, etc., pertaining thereto, I beg leave to respectfully submit the following report, to wit:

1. The walls of the building at the corner of Front and Market streets are in such a state of decay that it is feared they might fall, thereby either endangering citizens' lives or crushing and destroying the engine which is within said walls, thus incurring heavy expense to the city. Therefore, I respectfully suggest the erection of new walls.

2. The boilers used are old (they have not been renewed for the last twenty-one years), and are in very bad order. It is necessary that they shall be immediately replaced with new ones.

3. The reservoirs need repairing in several places. The walls fronting on St. T-omas street, principally, are in a bad condition, and there are leaks, causing a considerable waste of water. It is advisable that all of said repairs shall be made immediately.

With due respect, I call the earnest attention of the council to the matters relating to this report.

L. T. DELASIZE,
Administrator of Water Works, etc.

City council.

Regular session.

CITY HALL, NEW ORLEANS, *April* 12, 1870.

Mr. Delasize called up his report on the condition of the water works, and moved the following resolution:

Resolved, That the administrator of water works and public buildings be and is hereby instructed to adjudicate, after ten days' notice in the official journal, a contract to the lowest bidder, or bidders, for putting in new boilers to the city water works.

Seconded and carried.

1425 City council.

Regular session.

CITY HALL, NEW ORLEANS, *May* 31, 1870.

The mayor laid before the council the following communication:

To Hon. Benjamin F. Flanders, mayor, and board of administrators of the city of New Orleans.

GENTLEMEN: Herewith I present to your honorable board, for payment, bill of the late commissioners of the city water works, for services rendered in conducting the same, and commissions in adjusting and settling the accounts and interests between the Commercial bank and the city of New Orleans.

On behalf of the commissioners I respectfully call your early attention to this matter.

Your obedient servant, A. W. BOSWORTH,
President of the Late Board of Commissioners,
City Water Works.

New Orleans, May 10, 1870.

The city of New Orleans to Abel W. Bosworth, commissioner and president of board of commissioners, for services as commissioner and president in administering and managing the city water works, under ordinance No. 952, new series, approved July 31, 1868, say one year and eight months, at $5000 per annum...	$8,333 33
To Gabriel de Feriet, William McCulloch, Thomas McKnight, Harry T. Hays and Francis H. Hatch, for services rendered as commissioners in administering and managing the city water works, under ordinance No. 952, new series, approved July 31, 1868, say one year and eight months, at $3000 per annum each.....	25,000 00
To Eugene A. Waggaman, for services rendered as commissioner in administering and managing the city water works, under ordinance No. 952, approved July 31, 1868, say one year and five months, at $3000 per annum.....	4,250 00
To Abel W. Bosworth, Gabriel de Feriet, Eugene A. Waggaman, William McCulloch, Thomas McKnight, Harry T. Hays and Francis H. Hatch, for commissions in adjusting and settling the accounts and interests between the Commercial bank and the city of New Orleans, as specially employed by the mayor and finance committee of the common council for that purpose, on the appraised value of the works, $2,000,000, at two and one-half per cent.....	50,000 00
	$87,583 33

The ordinance in question was as follows:

MAYORALTY OF NEW ORLEANS,
CITY HALL, *July* 31, 1868.

(No. 952, new series.)

Resolved, That the mayor be and he is hereby authorized to appoint a board of commissioners, consisting of seven members, to manage the water works until such time as the city council may take further action.

Resolved, further, That the mayor be and he is hereby authorized to appoint a superintendent of water works, under the control of the commissioners aforesaid; provided, that all the appointments by the mayor be subject to the confirmation of the board of aldermen; provided, that the said commissioners and superintendent shall hold office under the mayor's appointment until such time as the
1426 common council may propose and mature the necessary ordinances and resolutions for the final government of the water works.

(Signed) ALFRED KEARNY,
President Board of Assistant Aldermen.

(Signed) THOMAS H. SHIELDS,
President pro Tem. Board of Aldermen.

Approved July 31, 1868.

(Signed) JOHN R. CONWAY, *Mayor.*

A true copy:
JOHN W. OVERALL, *Secretary.*

Mr. Pierce moved to lay the report on the table, subject to call.

Mr. West seconded the motion, which was supported by Mr. Bonzano and carried.

At the regular meeting of the city council, held June 14, 1870, "A. W. Bosworth and water-works commissioners' account for eighty-seven thousand dollars was laid over indefinitely."

MAYORALTY OF NEW ORLEANS,
CITY HALL, *July* 5, 1870.

(No. 253, administration series.)

An ordinance organizing the department of water works and public buildings.

SECTION 1. *Be it ordained by the council of the city of New Orleans*, That the department of water works and public buildings is hereby permanently organized, the scope of the powers of the administrator thereof to be as follows:

1. He shall have the entire management and control of the water works, embracing the renewal and repair of buildings, machinery, pipes, etc., and he shall have the superintendence of all

improvements that may hereafter be made in connection with said works.

2. He shall have general superintendence of court, school, engine and market houses and all other public buildings, and shall adjudicate all contracts for the erection, extension and repair of the same, and no appropriation therefor shall be considered, unless accompanied by his certificate that the specified work has been executed in keeping with the plan and specifications, and to his satisfaction, the foregoing being subject to modification by section 28, ordinance No. 346, new series (contract with Firemen's Charitable Association), and the control and possession of the public school-houses assumed by the State board of education.

3. He shall have under his direction all matters concerning the arrangement of the court-rooms, clerks' offices, etc., located in the municipal buildings, or in the buildings rented by the city; their repair and fitting up, and shall cause the same to be kept cleanly and orderly, in accordance with the provisions of ordinance No. 458.

4. He shall have the control and direction of the Insane Asylum and Home of the Aged and Infirm, with power to make such regulations for their government as may be deemed necessary and proper.

5. He shall have the supervision of all hospitals, pest-houses, etc., and persons whose care and treatment are chargeable to the city shall be received therein on his written order, the said order to be returned to his department as a voucher, on the presentation of bills; a report to accompany each bill, in which shall be embraced all the main facts connected with each case charged for therein, from commencement to termination of treatment; the form of said report to be prescribed by said administrator.

6. He shall present from time to time ordinances or resolutions in relation to the aid received by the city from the various orphan asylums, the data for same to be furnished to the administrator by those having said institutions under their control.

1427 SEC. 2. *Be it further ordained*, That for the proper discharge of the duties of his position, as set forth in the foregoing sections, the administrator shall have the appointment of the following officers, and such others as from time to time the council may deem necessary.

General office.

For the discharge of the duties appertaining to the general office:
One general clerk at the rate of $2500 per annum.
One assistant clerk at the rate of $1500 per annum.
One messenger at the rate of $600 per annum.

Water works.

For the discharge of the duties connected with the water works he shall appoint one assistant superintendent at the rate of $2000 per annum.

One hydrant book-keeper, at the rate of $2500 per annum.
One clerk at the rate of $2000 per annum.
Two collectors and assessors at the rate of $1800 per annum.
One assistant collector and assessor at the rate of $1200 per annum.
One porter at the rate of $500 per annum.
Five spannermen at the rate of $840 each per annum.
One plumber at the rate of $1200 per annum.
One carpenter at the rate of $1200 per annum.
One blacksmith at the rate of $1200 per annum.
One engineer at pumps at the rate of $1500 per annum.
Two firemen at the rate of $900 each per annum.
Two helpers at the rate of $900 each per annum.
One coal-wheeler at the rate of $720 per annum.
The hydrant book-keeper and assessors and collectors shall each furnish security in the sum of $5000 for the faithful discharge of their respective duties. * * *

City council.

CITY HALL, NEW ORLEANS, *December* 27, 1870.

Mr. Delasize handed in the following report on the proposed extension of the water works:

Department of water works and public buildings.

DECEMBER 27, 1870.

To the city council of New Orleans:

In presenting for your consideration and approval the accompanying draft of an ordinance to provide for the extension and perfection of the water works of the city of New Orleans, I will not attempt to convince you of the correctness of so self-evident a proposition as that a proper system of water works is of paramount importance to the growth and prosperity of a community, nor attempt the further unnecessary task of proving that the present water system of New Orleans falls far below the proper standard; but assuming conviction on these points, beg leave to lay before you a statement embracing four points:

1. The probable amount to be realized from the two million bonds proposed in the accompanying ordinance to be issued:
2. What is proposed to be effected by the expenditure of the money realized from the bonds:
3. As to the revenues to be derived from the extended water works:
4. The probable running expenses of the works, and the amount to be set aside for interest, etc.

1. As the bonds should be placed upon the market with a guarantee upon the part of the city that the revenues derived from the water works should be held sacred for the payment of the interest,

and the early retirement of the principal, the holders to have
1428 a lien on the works until final payment, it is reasonable to

NOTE.—The ordinance from which the above is an extract was promulgated for the first time July 8th, 1870, in the New Orleans Republican.

suppose that the bonds, bearing seven and three-tenths per cent. interest, will command at least eighty-five cents on the dollar, which would make the sum to be realized therefrom $1,700,000.

2. I have taken up in detail the various plans for providing the city with pure water, and find that with one exception, the benefits to be received are not commensurate with the cost of carrying them out; as for instance, the plan of laying adequate supply of mains to the Tangipahoa river, a distance of fifty miles, the cost of the mains alone would be at least $10,000,000, and then stand-pipes, with accessory machinery, would be necessary to give proper pressure to the water. The reservoir system also I find impracticable on the score of expense. The exception I refer to is called the Holly system, which its friends assert, will connect its machinery directly with the Mississippi river, and after causing the water to lose its sedimentary character entirely, will cause a pure stream to flow through the water pipes to the upper rooms of the highest dwelling in the city; it possessing the additional virtue of being susceptible of use as a fire-extinguisher.

The cost of the machinery, etc., directly applicable to the plan proposed, on a basis of supply of 20,000,000 gallons of water daily, will be—

For pumps, machinery, etc., set up and in working order	$278,000 00
For filters, set up and in working order	127,500 00
For square of ground for filters	25,000 00
For buildings for pumps, machinery, etc.	20,000 00
Total	$450,500 00

The cost of the pipe and other castings for the extension will be—

No. of miles.	Calibre of pipe in inches.	No. of feet.	Total cost.
40	4	211,200	$153,120 00
18	6	95,040	104,544 00
8	8	42,240	60,403 20
6	10	31,680	77,616 00
2	12	10,560	32,208 00
¾	16	3,150	17,104 50
½	18	2,800	16,800 00
3	20	15,840	104,544 00
2	30	10,580	116,688 00
80¼	—	423,070	$683,027 70

Extra castings	75,130 00
Four hundred valves, average $70 apiece	28,000 00
Twelve hundred fire-hydrants, at $60 apiece	72,000 00
Laying pipes, castings, etc	300,000 00
Total	$1,158,157 70
Cost of pumps, etc., as above stated	450,500 00
Total cost of works, pipes, etc	$1,608,657 70
Probable amount realized from bonds	$1,700,000 00
Total cost of works as stated above	1,608,657 00
Leaving for contingencies	$92,343 00

The distribution of the pipe on the completion of the works, as contemplated, will be—

	Miles.
In the first district	42
In the second district	30
In the third district	20
In the fourth district	23
In the sixth district	15
Total in the city	130

1429 3. The rents of the water works for the present year will be at least $150,000, which will be derived from less than two-thirds of the hydrants erected, leaving more than one-third out of use. The reason of the non-use of the closed hydrants being the sedimentary character of the water now furnished, it is proper to suppose that the introduction of pure water would cause them to be opened, which would increase the water rents at least one-half, or $75,000. It is also proper to infer that within the present water limits, with an addition of thirty-five miles of pipe, there will be connections made that will still further augment the revenues to the extent of $100,000, making a probable revenue from present water limits of $325,000. It would also be reasonable to calculate upon at least $75,000 rents from the thirty-eight miles of pipe laid in the fourth and sixth districts, which would make the aggregate rents amount to $400,000.

There is a very large item of service not placed to the credit of the water works in the above estimate; that is, public supply. With works extended, as contemplated in this report, the quantity of water that will be used for the various services embraced under the general item, public supply, will average at least 3,000,000 gallons daily, which, at the lowest rate it can be afforded, twelve cents per thousand gallons, would amount to $131,400. If this amount should be credited to the enlarged works, it would swell its revenues to the sum of $531,400.

The general public will realize the benefits of the proposed measure in the influence it will exert upon insurance, as the rate at present prevailing will be lowered at least one-half; on health, as it will no longer be compelled to drink the confined, and in some cases, stagnant water of cisterns, nor depend upon that precarious means for a supply; in comfort, in having pure water for culinary and cleansing purposes; in security, in having at their service at all times a speedy and certain means of extinguishing fires; and finally, in the enhancement of real estate, and the impetus it will give to manufacturing establishments of every character.

4. As the expenses of the water works during the last eight months, excluding the amount paid for boilers and for pipes, sums up $43,000, it is proper to place the running expenses of the present works for the year at $65,000. On such a basis, I regard $100,000 as a very liberal estimate of the expenses of the enlarged works. The interest account will be:

Present water-works bonds at five per cent	$69,695
Bonds to be issued at 7.30 per cent	146,000
Total interest	$215,695
Add probable running expenses, as above	100,000
Total	$315,695
Probable revenues of works, as before stated, exclusive of public supply	$400,000
Expenses, interest, etc., as above	315,695
Leaving	$84,305

If the city should assume the cost of the operating expenses of the works, as provided for in the ordinance, in consideration of the public supply being free, $100,000 will be added to the $84,305 surplus, as above, making the surplus account foot up $184,305, to be used yearly in the purchase of the bonds proposed to be issued, which will cancel them before maturity.

I ask as prompt action on the accompanying ordinance as the magnitude of the proposed improvement will allow.

L. T. DELASSIZE,
Administrator.

An ordinance to provide for the extension and perfection of the water works of the city of New Orleans.

Whereas, a system of water works that will secure an am-
1430 ple supply of pure water is of the utmost importance to a community, its growth and prosperity depending in a great measure thereon; and

Whereas, the city of New Orleans is sadly deficient in the respect named; therefore

Be it ordained by the council of the city of New Orleans, That for the purpose of extending and perfecting the water works of the

city of New Orleans, so as to procure an ample supply of pure water, there be issued bonds to the amount of $2,000,000, and the mayor and administrator of finance are hereby authorized and requested to sign the same, as the work to the end hereinbefore set forth shall require.

Be it further ordained, That the said bonds shall be issued in sums of fifty, one hundred, five hundred and one thousand dollars, with coupons attached, payable ten years after date and bearing interest at seven and three-tenths per cent. per annum, payable semi-annually.

Be it further ordained, That to meet the interest of said bonds, and the principal thereof at maturity, and the interest on the present existing water-works bonds, the whole revenues of the water works be and they are hereby pledged and sacredly set apart.

Be it further ordained, That the administrator of finance is hereby required at the end of each year, after setting apart a sum sufficient to pay all interest that may become due during the ensuing year on the bonds at present issued and to be issued in accordance with this ordinance, to advertise in the official journal, during thirty days, for sealed proposals for the sale to the city of such of said bonds as have the shortest time to run, to the extent of the amount on hand to the credit of the water works.

Be it further ordained, That the city of New Orleans, in consideration of the public supply, embracing water for fire-extinguishing, street-cleaning, etc., will meet all the expenses of the water works from the general funds of the city; the cost of the supply to be placed to the account of the several departments of the city government to which it may be furnished.

The report was received, and the accompanying ordinance was read twice by title and laid over.

Extract from the Report of Administrator L. T. Delassize, Administrator of Water Works, Made to the City Council, May 16, 1871.

There have been eighteen fire-hydrants and two fire-wells placed to connect with the extensions in the third district, and three fire-hydrants to connect with improvements made on Gasquet street.

The quantity of water pumped during the year was 2,101,015,664 gallons or an average per day of 5,756,207 gallons.

Coal consumed 23,739 barrels.

Number of hours worked 4233¼.

Or an average per day of about 11½.

The collections from water rents from May 1, 1870 to May 1, 1871, foot up		$148,064 91
Expenses for same period:		
Salaries	$35,892 09	
Running expenses	33,758 53	
Interest on bonds	69,695 00	
		139,345 62
Surplus		$8,719 29

I have withheld from the above statement, as not properly chargeable to the running expenses of the water works, all expenditures for improvements and extension, as follows:

Cost of pipe	$25,745 24
Cost of hauling pipe	413 80
Cost of labor laying pipe	2,393 25
Cost of boilers	21,200 00
Total	$49.752 29

1431 The result, as shown in the statement of collections and expenditures, exhibiting a surplus of $8719.29, is produced at a time when more than half the hydrants erected are non-productive. The fact that the public supply is free, which would represent a sum of at least $60,000, should also be taken into consideration in considering the productiveness of the works.

MAYORALTY OF NEW ORLEANS,
CITY HALL, *September* 12, 1871.

No. 1076, administration series.

Resolved, That the mayor be and is hereby authorized to appoint one or two competent persons, whose duty it shall be to examine the water-works systems in use in other cities in the United States, with a view of enabling them to recommend the most feasible, efficient and economical plan for adoption in the operation and extension of the New Orleans water works.

The report to be delivered as soon as possible. Compensation to be fixed by the mayor, subject to the approval of the council.

Adopted by the council of the city of New Orleans, September 12, 1871.

Yeas: Cochrem, Shaw, Lewis, Walton, Bonzano.

BENJ. F. FLANDERS, *Mayor*.

A true copy:

H. CONQUEST CLARKE, *Secretary*.

City council.

Regular meeting.

CITY HALL, NEW ORLEANS, *October* 31, 1871.

The mayor laid before the council the following report from Mr. D. C. McCan, one of the water-works commissioners appointed to investigate the various systems of water works.

NEW ORLEANS, *October* 30, 1871.

To the Hon. B. F. Flanders, mayor of the city of New Orleans:

DEAR SIR: Under date of September 12, 1871, I received instructions from you to proceed to various cities of the United States in

pursuance of the following resolution of the council of the city of New Orleans:

Resolved, That the mayor be and he is hereby authorized to appoint one or two competent persons whose duty it shall be to examine the water-works systems in use in other cities in the United States, with a view of enabling them to recommend the most feasible, efficient and economical plan for adoption in the operation and extension of the New Orleans water works.

In accordance with the foregoing I visited and examined the water works of the cities of Cincinnati, Chicago, Louisville, Newport, Indianapolis and Peoria.

The three former employ the ordinary double-acting reciprocating pumps, of which those used in this city may be considered a type. The three latter used the Holly system, which is composed of a series of reciprocating pumps to supply the ordinary wants of the inhabitants, in connection with rotary pumps, which are only used to give an additional pressure in the event of fire.

I do not consider it necessary to dwell upon the machinery of the first-named three cities, as that class of machinery has been so long in use, and is too well known to entitle it to more than the passing remark that all this machinery has given perfect satisfaction, and was certainly working admirably while under my inspection.

The Holly system, as being of late introduction, presenting several novelties of construction and arrangement, and as claiming many advantages over the old systems, naturally demanded my most attentive consideration.

A novelty in machinery, to entitle it to adoption, must present claims of excellence over other machinery which it is intended
1432 to supercede. After carefully observing the Holly machinery, I cannot perceive the advantages in the employment of a number of small reciprocating pumps instead of using one or two large ones, as is the custom under the old system. Multiplicity of parts is, as a general rule, objectionable in machinery, as it lessens simplicity and increases liability to derangement. These pumps are so arranged as to be driven by gearing or a train of tooth wheels. Too much cannot be said against a plan which renders gearing necessary, especially in high speeds; it is noisy in operation and is largely and continuously absorbing power by the friction of the various parts. In this respect, practically an important one, this system is greatly inferior to the old mode or that in use in this city, but the most striking peculiarity of the Holly system is the employment of what might be designated as supernumerary rotary pumps, to be put into operation only in case of a fire, for the purpose of producing an increased pressure, by which water may be elevated into the highest buildings without the intervention of fire-engines.

I will take the occasion to remark that whatever may be the pressure effected by using these rotary pumps, I cannot perceive why the same result cannot be obtained with the ordinary reciprocating pumps if run with an increased velocity. However, I have no confidence that the advantages claimed for this peculiar feature

of the Holly system would be of any practical utility in large cities where miles of pipe are in use, for, although the pressure might be sufficiently great to elevate water to any required height in the vicinity of the pumps, yet at greater distances be entirely inadequate to discharge it to a very moderate elevation. For example, although in our own works, we ordinarily pump directly into the city with a pressure corresponding to seventy feet elevation, yet at a distance somewhat remote the water will not rise into the second story of an ordinary dwelling.

My greatest objection to the Holly system is the employment of the rotary pump under any circumstances; it is a species of machinery, although theoretically possessing many advantages, yet practically is the most objectionable pump in use. They have been again and again introduced, but after trials more or less brief, in accordance with the circumstances in which they were placed, have been as often abandoned. These pumps are exceedingly subject to derangement, and expensive to repair. Used with water containing foreign matter, the velocity with which they are necessarily run abrades and cuts them with extraordinary rapidity.

The earliest constructed Holly machinery examined by me was that in Peoria. In this place the rotary pumps are exclusively employed. I infer a conviction of the practical inutility of this species of pump for long-continued labor has forced itself on the constructors of the Holly machinery, as they appear to have abandoned it, and now use, as far as ny observation extended, a number of reciprocating pumps, which are kept in constant operation to supply the ordinary wants of the inhabitants, while the rotary pumps are held in reserve, only to be used in the emergency of a fire, as already described.

In small towns where fires are of rare occurrence, and pure water is used, they would probably last for a considerable time, but in large cities where fires occur almost daily, and the water containing much sedimentary matter, they would, in my opinion, very soon become unserviceable. I will take occasion to remark that in all the different works visited by me, the machinery was kept continually (night and day) in operation, thus rendering two complete sets of hands, in connection with the machinery, necessary.

Upon my return I visited the machinery now in use in this city, which I found in excellent condition, and ascertained that the machinery proper, in contradistinction to the boilers, which were old and worn out, had given no trouble, nor had been out of repairs for years. With the present new boilers, there is very little re-
1433 quired to render this machinery perfect. During my tour of inspection I have seen no pumping machinery so well arranged, so substantial in its construction, and so entirely satisfactory in its operation.

In addition to the two large condensing engines, working double-acting reciprocating pumps, twenty-eight inches diameter and eight feet stroke, there are two other engines, each working two double-acting pumps, twenty-two inches diameter and six feet stroke, which,

though in perfect order, are never used, as the larger machinery is ample to supply all the wants of the city, running only about ten hours per day of twenty-four hours. The machinery now used make nine strokes per minute, and will discharge each day of ten hours about 739,500 cubic feet of water. If both engines were running continually (as the machinery is run elsewhere), and the smaller of the two at its ordinary speed of fifteen strokes per minute, their joint work would be 3,136,320 cubic feet per twenty-four hours.

Thus it appears, that we have pumping machinery in perfect working order, abundantly capable of supplying more than four times the quantity of water now used.

In regard to filtration, in the cities of Indianapolis and Newport it has been attempted in connection with the Holly apparatus, but in both cases the plans adopted have, as far as I could learn, signally failed. From all that I have seen I have grave doubts in regard to the practicability of any plan of filtration on a large scale. The only feasible method of obtaining clear water—if that is essential—is the employment of reservoirs, sufficient in number and capacity to permit the water to remain undisturbed sufficiently long to precipitate its foreign matter before being pumped into the city.

I ascertained, while visiting our own works, that the ordinary pressure employed was equivalent to a head of sixty-five to seventy feet, quite as much as it would be prudent permanently to subject the present pipes, a great part of which are old, and having been cast horizontally (therefore likely to be of unequal thickness), instead of being made under the present system—cast vertically—which secures pipes of greater average strength. Occasionally a pressure equivalent to one hundred feet elevation has been attained, thus showing the capacity of this species of machinery to rival what is claimed as the peculiar excellence of the Holly system.

It thus appears that I have seen no machinery superior to our own, and if it is desired to increase the quantity of water daily supplied to this city, no other pumping machinery will be necessary for many years, as we have only to work up the present machinery to its full capacity. Of course, it is understood, to effect this, many changes may be necessary in the size and distribution of the pipes, with additional pipes to supply water to those portions of the city now beyond the limits of water distribution, should it be contemplated to extend this limit; but, as these suggestions may be beyond the line of my duties, I will conclude my report by taking this occasion to express my gratitude for the uniform courtesy which the gentlemen in charge of the various works visited by me responded to my inquiries.

D. C. McCAN.

Regular meeting of the city council.

City hall, New Orleans, October 17, 1871.

Department of water works, and public buildings,

NEW ORLEANS, *October* 1, 1871.

To Hon. Benj. F. Flanders, mayor of the city of New Orleans:

I beg leave respectfully to make the following report of the operations of the city water works for the financial year ending September 30, 1871.

Under ordinary circumstances, I would hold it to be my duty to lay before you my views as to the proper solution of the difficulties under which our city is laboring with respect to water supply; but I withhold their expression on account of the action of the council in ordering a commission to investigate the water systems
1434 of other cities, with a view to the adoption of that which may seem best suited to our topographical position. If the report of the commission be such as the great scientific attainments of one of the gentlemen appointed would warrant us in expecting, I will defer to its judgment, however opposed to my own, in the hope of securing for our city the advantages of a system of water works worthy the name.

There is one point, though, which I fear may be overlooked by the commission—a point, in my estimation, of vital importance in any scheme of perfection and extension—that is, to elevate the quality of the water, while securing ample supply, with accelerated force of delivery. On this subject a glance at the private hydrant statement will be instructive, it appearing that, out of 10,035 hydrants erected, there were 4044 closed during last year, the cause of the closure being the sedimentary character of the water. If properly filtered water was supplied, there is every reason to suppose that the closed hydrants would be opened, and that additional connections on the present mains would be made, thus largely augmenting the receipts for water rates.

Financial statement.

The financial statement elsewhere given shows the receipts from water rents for the year just closed to be $147,726.93, to which may very properly be added the sum of $4268.94, collected on account of period ending September 30, 1870, as that amount is a very low estimate of future collections on account of last year, making the total collections amount to $151,995.71.

By comparison, I find the collections of the past year are greater, with the exception of 1866–'67–'68, than any one year since the erection of the works—and the excess in the years excepted is made up of large amounts paid by the United States Government, and for distilling purposes, there having been thirty distilleries in operation during that time; besides, it was a period of great buoyancy in business of all kinds.

The expenditures foot up $102,257.43, in which is included $44,168.89, paid on account of extension and improvement, which sum should be excluded in arriving at a correct estimate of current expenditures of the works. The sums properly chargeable in the year are:

For hydrant service and office expenses	$15,443 75
For pumping service	23,247 84
For street repair	19,396 95
Total current expenses	58,088 54
Interest on water-works bonds	69,670 00
Total	$127,758 54
Total receipts	$153,394 81
Current expenses and interest as above	127,758 54
Surplus of receipts	$25,636 27

Extension.

The extensions during the past year have been made in the third district—all of them at the instance of citizens residing therein. In making extensions I have refrained from going outside the present water limits, as the fourth and sixth districts will require a change in the character of the works before their supply is possible.

Cement pipe.

The continual increase in the cost of repairing the cement pipe makes it imperatively necessary that provision be made at as early a day as possible for its substitution by iron pipe. Indeed, judging from the condition in which it was found on Gasquet street the work of substitution will be forced on the city, from the stoppage of supply to subscribers on the line of the streets in which this pipe is laid.

1435

Fire-wells.

The great fire at Chicago has caused public attention to be directed to means of fire extinguishment, and many advocate the sinking of fire-wells throughout the city to that end. Though an advocate of a system of water works that will render a resort to such means of fire extinguishment unnecessary, in view of present exigencies, I would, to a limited extent, advise the sinking of wells.

Holly hydrant.

Among the articles contracted for from Gaylord & Co., of Cincinnati, last autumn, were one hundred fire-plugs of the Holly pattern. These have been placed to the number of thirty-nine in various parts of the city, and work admirably. The first work to be done in the improvement of the water works should be that of substituting a modern plug for the antiquated one now in general use.

Ornamental fountain.

The ornamental fountain erected on the neutral ground, Canal street, proves quite an attraction. The inventor desired to place one of the same design at the junction of Old Camp with Magazine street, and as the only expense to the city incident to their erection is the supply of water, I can see no objection to granting the privilege. Indeed, I would grant privileges of the character asked for to any extent in keeping with utility for there are too few places in the city where water can be obtained without compelling the thirsty to resort to drinking saloons.

Meters.

Meters that have been found of so much service in northern cities, in determining the quality of water used, have, in many cases, failed in our city, the failures chiefly arising from the sedimentary nature of the water. Meters of large calibre serve the best purpose. During the past year no meters have been placed, but twenty-one have been discontinued.

Vortex skimmers.

During the past year, vortex skimmers (Armstrong pattern) were attached to the boilers of the water works. Alluding to them, the engineer at the pumps states: "They come up fully to all the inventor claims, keeping the boilers free from scales and mud."

I annex to this report financial and other statements; also statement of the present condition of the New Orleans water works, to which I would respectfully call attention.

L. T. DELASSIZE,
Administrator.

Financial Statement—Receipts.

The receipts from all sources during the past year were as follows:

For water rates for year ending September 30, 1871, first district	$78,314 07	
Second and third districts	67,612 86	
Street sprinkling	1,800 00	
		$147,726 93
For period ending September 30, 1870, First district	3,690 96	
Second and third districts	577 88	
		4,268 84
Total forwater rates		$151,995 77
For labor	$1,211 54	
For cinders	187 50	
		1,399 50
Total receipts		$153,394 81

1436 Expenditures—Hydrant service—Office expenses.

Salaries of assessors and collectors, etc	$8,339 50
Wages of spannermen	5,339 27
Office rent	999 78
Stationery	358 60
Advertising and subscriptions	288 00
Miscellaneous	418 00
Total	$15,443 75

Pumping service.

Salaries of engineers and assistants	$8,579 17
Grate bars	632 88
Labor and material on boilers	326 62
Lard oil	599 25
Tallow, cotton waste, packing	368 28
Drayage and sundries	96 35
Coal	12,645 29
Total	$23,247 84

Street service—Repairs.

Salaries of assistant superintendent and others	$6,574 59
Wages of foremen and laborers	7,157 56
Paving around fire-hydrants	437 00
Paving replaced in street	581 90
Drayage and cartage	1,156 55
Lumber	1,015 06
White lead, tallow and packing	166 75
Nails, screws, rivets, etc	113 60
Iron and steel	296 60
Fire-hydrant castings	645 30
Stop-cock castings	656 80
Tools	398 88
Sundries	196 36
Total	$19,396 95

Extension and improvements.

4895 feet eight-inch pipe, 10,004 feet six-inch pipe, 2004 feet four-inch pipe, 45 crosses, 90 tees, 45 sleeves, 100 fire-hydrants	$24,857 25
78 reducers	682 75
300 ferrules	302 25
9644 pounds pig lead	887 14
Lead pipes, block tin and packing	255 52
Wages foremen and laborers	2,933 75
2163 square yards pavement replaced	1,189 63
Lumber and fuel	371 95

Drayages and cartages	522 21
Sunddies	21 29
Total	$32,023 74
Paid on new boilers	11,500 00
Paid on vortex skimmers	500 00
Paid on filtering experiment	145 15
Total	$44,168 89
Grand total of expenditures	102,257 43

Statement Showing Number of Families, Stores, Manufactories, etc., Supplied with Water During the Year Ending September 30, 1871.

Dwelling-houses	3,728
Stores	568
Grocery, provision and liquor stores	421
Coffee-houses	370
Offices	141
1437 Shops	108
Stables	91
Boarding-houses	81
Bakeries	58
Drug stores	51
Barber shops	42
Coal and wood yards	31
Restaurants	28
Confectioneries	26
Blacksmith shops	21
Schools	19
Livery and sale stables	18
Oyster saloons	16
Printing establishments	16
Undertakers	13
Meat markets (private)	13
Ice-houses	14
Breweries	11
Dyeing establishments	11
Warehouses	11
Bottling establishments	10
Cotton presses	10
Lumber yards	10
Foundries	9
Saw and planing mills	7
Tobacco manufactories	7
Club-rooms	7
Photograph galleries	7
Hotels	6
Public halls	5
City car stables	5

Railroad depots	5
Sugar refineries	5
Theatres	5
Grist and corn-meal mills	5
Broom factories	4
Marble works	4
Billiard saloons	4
Seltz- water manufactories	4
Public troughs (kept by private parties)	4
Cotton pickeries	4
Cotton-seed oil factories	3
Masonic halls	3
Poultry yards	3
Brass foundries	2
Vinegar manufactories	2
Soda manufactories	2
Coffee and spice mills	2
Steam bagging and rolling establishments	2
United States commissary department stores	2
Slate yards	2
Public bath-houses	1
Gas works	1
Museum	1
Bitters manufactory	1
Stone factory	1
Barrel factory	1
Mill factory	1
New Orleans Canal Company, first district (supplying schooners)	2
New Orleans Canal Company, second district (supplying schooners)	1
Bisulphate of lime factory	1
Southern Paving Company	1
Sanitary and Fertilizing Company	1
Stave yard	1
Syrup manufactory	1
Grave yard	1
1438 United States branch mint	1
Custom-house	1
Churches	3

Free supply.

Public schools	21
Churches	9
Religious schools	6
Charitable institutions	7
Police stations	5
Court-houses	3
City pounds	2
Houses of refuge	2

Bureau commissioner of police	1
City hall	1
Water-works office	1
Charity hospital	1
Warehouse	1
Prison	1
Insane asylum	1

Hydrant statement.

First district—Number of hydrants open	2,502	
Second and third districts—Number of hydrants open	3,489	
		5,991
First district—Number of hydrants closed	2,680	
Second and third districts—Number of hydrants closed	1,364	
		4,044
Total		10,035

During the present year there were 129 hydrants erected and 74 cut.

Meters in use October 1, 1871.

One four-inch meter in St. Charles hotel.
One four-inch meter in Thompson's sugar refinery.
One four-inch meter in Jackson railroad depot.
One four-inch meter in Henderson's sugar refinery.
One four-inch meter in Pelton's sugar refinery.
One four-inch meter in De Meza's sugar refinery.
One three-inch meter in Thompson's sugar refinery.
One three-inch meter in City hotel.
One three-inch meter in St. James hotel.
One two-inch meter in Merz's brewery.
One one and a half inch meter in Wilde's brewery.
One one-inch meter in Carre's lumber yard.
One — inch meter in George Auer's brewery.

Statement of Coal on Hand at the Pumps October 1, 1870, *Received During the Year Ending September* 30, 1871, *and Amount on Hand October* 1, 1870, *with Cost.*

On hand October 1, 1870—

Barrels.		Cost.
7,806		$4,527 48
Received since—		
1,001		750 75
8,446		4,940 91
861¾		646 25
10,162¾		5,894 38
——28,841½		
28,841½		$17,172 77
1,921 used by department of improvements		1,123 78
26,920½		$16,048 99
3,913 on hand October 1, 1871		2,269 54
23,907½ amount used during year		13,779 45

1439 *Statement Showing Operations at the Pumps During the Year Ending September* 30, 1871.

Months.	Hours worked.	Engine used.	Water pumped, gallons.	Coal consumed, barrels.
October, 1870	443¼	New	215,139,420	2,915
November, 1870	334¾	New	162,904,020	1,990
December, 1870	334½	New	169,629,060	1,890
January, 1871	323½	New	156,961,680	1,687
February, 1871	264¼	New	129,318,660	1,467
February, 1871	13¾	Old	4,995,054	48
March, 1871	198¼	Old	71,506,302	679
March, 1871	188½	New	87,110,040	1,030
April, 1871	341½	New	166,144,740	1,736
May, 1871	335½	New	170,816,340	1,906
June, 1871	336	New	174,197,640	2,013
July, 1871	371	New	198,905,100	2,253
August, 1871	387¾	New	205,445,540	2,409
September, 1871	376¼	New	196,367,340	2,296
Total	4,248¾		2,109,450,936	24,319

Daily average: Head water at pumps, 49⅙ feet; fall in reservoir, from stopping to starting, 4⅛ feet.

Statement of Location, Size, and Number of Feet of Pipe Laid During Year Ending September 30, 1871.

	Number of feet.
St. Bernard street, six-inch pipe	1,853
St. Bernard street, four-inch pipe	210
Columbus street, six-inch pipe	1,645
Columbus street, four-inch pipe	112
Claiborne street, six-inch pipe	560
Claiborne street, four-inch pipe	34
Gasquet street (cement pipe removed), six-inch pipe	1,900
Gasquet street (cement pipe removed), four-inch pipe	66
Roman street (cement pipe removed), four-inch pipe	377
Prieur street (cement pipe removed), four-inch pipe	252
Laharpe street, six-inch pipe	1,550
Laharpe street, four-inch pipe	60

Stop-cocks placed.

	No. placed.
St. Claude street, near Esplanade, six-inch pipe	1
Laharpe and Claiborne streets, six-inch pipe	1
Laharpe street, near Johnson, six-inch pipe	1
Victory street, near Esplanade, six-inch pipe	1
Victory street, near Elysian Fields and Marigny, six-inch pipe	1
Gasquet and Galvez streets, six-inch pipe	1
Carondelet and Polymnia streets, six-inch pipe	1
New Levee and Race streets, six-inch pipe	1

Fire-hydrants (Holly patent) placed.

Street.	No. placed.
St. Bernard	7
Columbus	7
Gasquet	5
Claiborne	2
Roman	1
Prieur	1
Laharpe	4
Marais	1
Kerlerec	1

1440 Repairs of fire-hydrants.

Of the 875 fire-hydrants in the city, 463 were repaired during the year. The nature of the repairs *were* as follows:

Rods replaced	83
Rubber valves replaced	84
Screws	95
Stirrups replaced	178

Washers replaced	179
Wooden cases replaced	397
Lead joints caulked	418
Packing	420
Iron covers replaced	7

Repairs of stop-cocks.—Of the 343 stop-cocks attached to the pipes, 102 were repaired.

Main pipe repaired during the year.—99 leaks in iron pipe, 46 leaks in cement pipe.

Fire-hydrants replaced.

At the following named points blow-offs have been placed to substitute Young America fire-hydrants, which are found to serve no useful purpose:

New Levee, near Race street.
Carondelet and Polymnia streets.
Victory, near Esplanade street.
Victory, between Elysian Fields and Marais streets.

At the following named points, Holly's patent fire-hydrants have replaced the Young America and old-style fire-hydrants:

Clio, near St. Charles street.
Orleans, between Bourbon and Royal streets.
Levee, between St. Ferdinand and Montegut streets.
New Levee, near Erato street.
Bourbon, between St. Louis and Toulouse streets.
Rampart and Poydras streets.
Perdido, between Freret and Locust streets.
Chartres, between Bienville and Conti streets.
Old Levee, between St. Louis and Toulouse streets.
Chartres, between St. Peter and St. Ann streets.

Here follows an inventory of the water works, which is omitted on account of its great length.

MAYORALITY OF NEW ORLEANS,
CITY HALL, *January* 10, 1872.

(No. 1292, administration series.)

Be it ordained by the council of the city of New Orleans, That the mode of letting the contract for the privilege of water from the plugs of the city water works for street-sprinkling purposes be and the same is hereby changed, the mode hereafter to be so much per cart carrying a cask not exceeding in capacity 325 gallons, the rate to be, in advance, $350 per annum for each cart.

Be it further ordained, That the carts shall be numbered 1, 2, 3, etc., in the order of registration, and shall bear, besides said number, a tin sign on which shall be painted the words "water rates paid," the numbering and sign to be at the expense of the contractor.

Be it further ordained, That on the registration of a cart the owner thereof shall be placed in possession of a spanner for opening the

fire-plugs, which spanner shall only be used for procuring water for street-sprinkling purposes, and then only in a properly authorized manner; any other use of it will cause a forfeiture of contract and the money paid thereunder; any undue wastage of water will also work forfeiture of contract.

Be it further ordained, That this ordinance shall take effect from and after its passage.

1441 Adopted by the council of the city of New Orleans, January 9, 1872.

Yeas: Cockren, Shaw, Delassize, Remick, Lewis, Bonzano.

BENJ. F. FLANDERS, *Mayor*.

A true copy:

H. CONQUEST CLARKE, *Secretary*.

CITY HALL, NEW ORLEANS, TUESDAY, *November* 12, 1872.

Mr. Delassize presented his annual report as follows:

Department of water works and public buildings.

NOVEMBER 12, 1872.

Hon. B. F. Flanders, mayor:

I beg leave to present the following report of the operations of the city water works during the financial year ending September 30, 1872.

From the action of the council at the close of the financial year ending thirtieth of September, 1871, in appoining two commissioners to investigate the water systems of the northern cities, I had hoped that ere long this a plan would have been adopted, securing to our city water works commensurate with its wants; but, unfortunately, the commission proved a failure—the commissioner from whom most was expected, from his scientific attainments, failing to qualify, while the gentleman who did qualify came back from the tour of inspection with all of his prepossessions in favor of the present machinery only the more firmly fixed. Most lame and impotent conclusion.

The commissioner having failed to accomplish the desired result, I felt it incumbent upon me, in view of the imperative necessity of superceding the present water works by other and more improved machinery, to attempt, at least, to mature a plan that would secure the desired end, meet the views of the council, and, at the same time, by the comparatively, small expenditure necessary to carry it out, win public favor. Such a plan I devised, after consultation with gentlemen familiar with the science of hydrostatics and of experience with respect to water-works enterprises, and in connection therewith received every encouragement as to its adoption; but interests adverse to any project having in view the improvement of the works by the city were sufficiently potential to cause the plan to miscarry.

In the works proposed to be erected under the plan referred to, the two great shortcomings of the present machinery—lack of

capacity and limited forcing power—were fully provided for. Under their operation, an abundant supply of water would have been furnished in all parts of the city, and a pressure exerted equal to its delivery in the upper stories of the highest dwellings.

Had the plan proposed been adopted it would have necessitated the substitution of iron pipe for cement, larger pipe for the three-inch, and the remedying of such engineering defects in the arrangements of the pipe as might be found to exist. It would have been requisite, also, to displace the present antiquated fire-plug by the substitution of one of an improved pattern.

Financial statement.

The receipts from water rates during the financial year just closed were $137,522.78, against $147,726.93 during the year previous, showing a decrease of $10,204.15. From the total amount of receipts as given there is to be taken the sum of $5635, on account of a defalcation, which will reduce the amount actually paid into the city treasury from collection of water rates during the year to $131,907.78.

The expenditures during the year were as follows:

1442 Running expenses.

Hydrant service	$16,083 61
Pumping service	30,812 92
Street service, repair	22,452 89
Improvement and extension service	9,215 50
Total	$78,564 92
Interest on water-works bonds	69,670 00
Grand total	$148,234 92

The running expense of the past year exceeds that of the previous year by $11,268.88, the excess being occasioned mainly by the additional amount of work required in the pumping service, caused by the breakage of the reservoir. Prior to that there was no night work, the reservoirs being equal to the night supply of the city; whereas since that occurrence the engines have worked night and day, necessitating the use of nearly double the amount of fuel, and a large increase in the salary account. The depreciation of city credit also had its influence in increasing the expenses.

Improvement and extension.

During the past year improvement and extension has been made, to a limited extent, in each of the municipal districts included within the water district, the improvement being the substitution of eight-inch iron for cement pipe on Esplanade street, and the placing of fire-hydrants in connection therewith. The extension in the first district was to the extent of 1570 feet, and in the third to the extent of 2213 feet. With regard to the fourth and sixth

districts, I have acted out the policy announced in my last annual report, to make no extension within said districts until there should be an improvement in the works.

I would respectfully call attention to the statements accompanying this report.

L. T. DELASSIZE,
Administrator.

Financial Statement—Receipts.

The receipts from the water works from all sources during the last year were as follows:

For water rates:		
First district		$71,259 78
Second district		65,080 00
Street sprinkling		1,175 00
Total		$137,522 78
Loss by defalcation		5,635 00
Total paid into treasury		$131,887 78
For labor	$611 55	
For cinders	6 25	
For old iron	255 78	
For brass	72 50	
		$943 08
Total		$132,830 86

Expenditures.

Hydrant service—Office expenses.

Salaries of officers	$14,549 50	
Office rent	1,000 00	
Stationery	255 85	
Advertising and subscriptions, etc	224 00	
Miscallaneous	54 26	
		16,083 61
Amount carried forward		$16,083 61
1443 Amount brought forward		16,083 61

Pumping service.

Salaries of engineers, etc	$9,797 00	
Hardware, lard oil, etc	1,758 74	
Valves	1,837 69	
Foundry-work	257 50	

Coal	16,742 39	
Advertising	400 00	
Sundries	19 50	
		30,812 92

Street service.

Salaries of engineers, superintendent and others	$6,753 15	
Wages	10,833 45	
Paving	2,553 40	
Hardware, etc	873 89	
Castings—valves, etc	923 00	
Advertising	12 00	
Lumber	499 00	
		22,452 89

Extension and improvement.

Pipe, iron and lead	$1,897 41	
Hardware, etc	1,413 87	
Lumber and wood	616 75	
Wages	3,991 00	
Paving	1,190 35	
Advertising	15 00	
Hauling	91 12	
		9,215 50
Total		$78,564 92

Hydrant statement.

First district—number of hydrants open	2,209
Second district—number of hydrants open	3,244
Total open	5,453
First district—number of hydrants closed	3,166
Second district—number of hydrants closed	1,793
Total closed	4,959
Total	10,412

Pumping statement.

Statement showing operations at the pump during the year ending September 30, 1872.

	Hours worked.	Engine used.	Water pumped. Gallons.
October, 1871	329	New	181,013,280
November, 1871	311¼	New	166,257,960
December, 1871	103¾	Old	38,076,394
December, 1871	244	New	126,547,320
January, 1872	306¼	New	155,874,360
February, 1872	279¾	New	136,128,180
March, 1872	294	New	148,211,100
April, 1872	29¾	New	12,159,420
April, 1872	652½	Old	181,103,910
May, 1872	723	Old	207,111,836
June, 1872	535¼	Old	158,460,504
June, 1872	165½	New	96,179,880
July, 1872	735¾	New	177,450,070
August, 1872	426	New	119,262,420
August, 1872	302½	Old	92,719,350
September, 1872	284	Old	90,643,524
September, 1872	423	New	185,220,780
Total	6,145		2,292,420,288

1444 Coal.

The following is a statement of coal on hand at the pumps October 1, 1871, received during the year ending September 30, 1872, and amount on hand October 1, 1872, with cost:

	Barrels.	Cost.
On hand October 1, 1871	3,913	$2,269 54
Received November 19, 1871	8,918½	7,045 61
Received February 23, 1872	8,800¼	7,440 21
Received June 4, 1872	9,489¾	6,595 37
	31,121½	$23,390 73
Used by other departments	4,545	3,623 25
	26,576½	$19,767 48
On hand October 1, 1872	650	451 75
Total	25,926½	$19,315 73

Extension and improvement.

The following is a statement of the location, size and number of feet of pipe laid during the year ending September 30, 1872.

	Feet.
Esplanade street, eight-inch	3068
Esplanade street, four-inch	900
Dauphine street, six-inch	1820
Dauphine street, four-inch	75
Piety street, four-inch	318
Johnson street, four-inch	1210
Howard street, four-inch	360

Stop-cocks placed.

	No.
Esplanade and St. Claude streets, eight-inch	1
Esplanade and Liberty streets, eight-inch	1
Esplanade and Tonti streets, eight-inch	1
Esplanade, near Broad street, four-inch	1
St. Philip and Peters street, six-inch	1
Dauphine and Louisa streets, six-inch	1
Dauphine and Piety streets, six-inch	1
Tchoupitoulas and Notre Dame streets, eight-inch	1

Fire-hydrants placed.

	No.
Esplanade street	19
Greatman street	4
Piety street	1
Howard street	1
Johnson street	2
New Levee street, near North	1
Terpsichore street, near St. Charles	1
Victory street, near Esplanade	1
Bienville street, near Johnson	1
Tchoupitoulas and Celeste streets	1
St. Joseph street, near Commerce	1

Statement of repairs.

Repairs of fire-hydrants.

There were 501 fire-hydrants repaired, against 463 the year previous. The nature of the repairs *were* as follows:

Rods replaced	60
Rubber valves replaced	59
Screws replaced	69
Stirrups replaced	123
Nuts and washers replaced	280
Lead joints caulked	370
Packing	459
Wooden cases replaced	249
Iron cases	13
Covers replaced	222

1445 Stop-cocks repaired.

There were 125 stop-cocks repaired.

Main pipes repaired.

There were 123 leaks in iron pipes and 40 in cement pipes during the past year.

MAYORALTY OF NEW ORLEANS,
CITY HALL, *April* 23, 1873.

(No. 2095, administration series.)

Resolved, That ordinance No. 1292, administration series, fixing a tax on sprinkling carts, be and is hereby repealed.

Be it further resolved, That from and after the passage of this ordinance the charges for water for sprinkling carts will be $250 per year for each and every cart, the same to be collected by the proper officers of the city water works. In all cases the above will be payable in advance. Each cart, of which the water rent has been paid, shall have painted on the wood-work of the barrel the words: "Water rates-paid," and also the number corresponding with number on water-rates bill. This ordinance to take effect from and after its passage.

Adopted by the council of the city of New Orleans, April 22, 1873.

LOUIS A. WILTZ, *Mayor*.

A true copy:
DANIEL SCULLY, *Secretary*.

Extract from the Annual Message of Mayor Louis A. Wiltz, Dated New Orleans, City Hall, January 13, 1874, *Spread Out in the Minutes of the City Council, Regular Meeting, January* 13, 1874.

"Water works and public buildings.

Hon. Charles Fitzenreiter, administrator of water works and public buildings, reports the total expenditures in his department for the year 1873 at $132,732, against $202,905, the total for 1872—a saving of $70,173. The expenditures for the water works in 1873 amounted to $79,686, against $94,126 in 1872. The salaries and office expenses which, in 1872, were $6765, have been reduced to $4563. The collections and water rents, etc., for 1873, were $151,326. On hand are large quantities of materials, bought chiefly in 1873, including nearly 6000 barrels of coal and 8540 feet of iron pipe. During the year 183 stop-cocks were repaired, the amount of labor on the same being 241 days, and the paving required 674 square yards. The number of leaks repaired *were* 167, the labor being 510 days, and the paving 528 square yards. New extension pipes were laid to the amount of 4001 feet. Fire-plugs repaired numbered 149, at a cost of 386 days' labor and 523 yards of paving. Thirteen new fire-hydrants were placed, and as many new fire-wells constructed."

CITY HALL, NEW ORLEANS,
TUESDAY, *August* 24, 1875.

The mayor laid before the council the following communication which was received and read:

MAYORALTY OF NEW ORLEANS,
CITY HALL, *August* 24, 1875.

To the city council of New Orleans:

I have the honor to report that in accordance with the advertisement of the honorable the administrator of water works and public buildings, relative to the lease of the city water works, in conformity with ordinance 3145, administration series, but one bid was received and opened, which failed to meet the requirements of the said ordinance, and was, therefore, not a proposal that could
1446 be properly considered; yet, bearing as it does upon an important interest of the city, it is herewith transmitted as a matter of information.

CHARLES J. LEEDS, *Mayor.*

(The proposal referred to in the above communication does not appear in the minutes of the council.)

MAYORALTY OF NEW ORLEANS,
CITY HALL, *June* 16, 1875.

(No. 3145, administration series.)

An ordinance to provide for the lease of the water works of the city of New Orleans, under certain conditions.

SECTION 1. *Be it ordained by the city council of New Orleans*, That the administrator of water works and public buildings is hereby authorized and required to advertise for sealed proposals for the lease of the water works of the city, with accompanying franchises, on the conditions and in the manner hereinafter expressed and provided.

SEC. 2. *Be it further ordained, etc.*, That the person or association of persons to whom the lease may be adjudicated under this ordinance, shall be required, within the time specified, to make such additions to the present works, or construct such new works as will cause good, clear water to be furnished freely for all public and private uses in the fifth stories of ordinary buildings, or to a height of not less than fifty feet above the highest natural ground within the corporate limits of the city. By the term good, clear water, is meant such water as can be obtained from the Mississippi river, by a process of settling or subsidence, which will render said water as free as possible from all earthy or sedimentary matter. The location and construction at any time of such reservoirs, and other works as may be required to fulfill the conditions of this ordinance, shall be made in such manner, and according to such plans and specifications as shall receive the sanction and approval of the city surveyor, together

with the administrator of water works and public buildings, or such other officers as the city council may select, and the construction of such works shall be made with a view to permanency and durability, so that the same shall be valuable to the city at the expiration of the lease. In the case of any disputes arising between the city surveyor and the lessees in regard to the location or construction of any such works, or anything else appertaining to said lease, it shall be competent for said lessees to appoint an engineer, experienced in his profession, and the city council and said lessees shall agree upon the selection of a third engineer, who shall, together with the city surveyor, form a board, which board, by a majority vote, shall decide all matters thus arising in dispute which can be settled without resort to litigation. The engineers thus employed shall be paid by the lessees a reasonable compensation for their services.

SEC. 3. *Be it further ordained, etc.*, That the title of the person, or association of persons, to whom the lease may be awarded under this ordinance, shall be "lessees of the water works of the city of New Orleans," and as such shall be subrogated hereby to all the rights, privileges, etc., which are now enjoyed through legislative enactments or otherwise by the city of New Orleans, and especially as to the rights of expropriation or use of property, which may be necessary to carry out the objects and intents of this ordinance. And the lessees shall also incur all obligations whatsoever connected with the endowment of said rights and privileges. And furthermore, the said lessees shall have the power to sue, and the authority to be sued, the same as is now possessed by the city of New Orleans.

SEC. 4. *Be it further ordained, etc.*, That the lease of the water works, as aforesaid, shall embrace all rights and franchises connected with the sale or furnishing of water through water rents or otherwise, in conformity with the terms of this ordinance,
1447 and the said lease shall extend for the period of fifty years from the day the notarial act is signed as herein provided. And for and in consideration of the rights and franchises hereby to be granted and conveyed, the lessees shall agree and bind themselves to pay in any recognized indebtedness of the city of New Orleans, whether bonds, past-due coupons, or otherwise, as follows: Five hundred thousand dollars of such indebtedness at the time of signing the contract, and the balance thereafter in eighteen consecutive equal monthly installments; provided, that if any such payments should be anticipated, a discount shall be allowed at a rate equivalent to the rate of interest which the bonds or indebtedness offered to be paid may bear.

SEC. 5. *Be it further ordained, etc.*, That within fifteen days after the signing of the contract for the lease which may be awarded, the lessees shall be placed in full possession of all the buildings, machinery, pipes, etc., belonging to the water works of the city, necessary to carry out the obligations of their contract; and within that time the city surveyor shall cause to be taken an inventory of all buildings, machinery, pipes and every description of property belonging to the water works, and said inventory shall be filed in the

office of said surveyor for future reference and information. There shall be no interruption in the supply of water, as existing at the adjudication of the lease, during the pendency of any improvements which may be entered into or needed, and any failure on the part of the lessees in this respect shall render them liable in damages to the city or any individuals, if such damages are thus sustained.

SEC. 6. *Be it further ordained, etc.*, That the rates for the use or supply of water at any time during the period of this lease shall not exceed the prices, per annum, fixed in the following schedule, viz:

For all houses occupied by one to four persons, $8.
Each additional person over four, seventy-five cents extra.
Each water-closet, $5.
Each urinal, $5.
Each private bath-room, $5.
Each public bath-room or bathing tub, $7.
Each livery stable, per stall, $2.
Each public or private carriage, $1.
Each horse, cow or mule, $2.
Each public billiard table, $3.
Each barber shop, per chair, $5.
Each coffee-house, according to assessment, $25 to $100.
Each boarding-house, according to assessment, from $20 to $150.
Each grocery, according to assessment, $15 to $40.
Each confectionery, according to assessment, $15 to $100.
Each brewery or refinery, according to assessment.
Each hotel, according to assessment.
Each steam-engine, per horse-power, $3.
All brick-work, per 1000 brick, ten cents.

And where assessments have to be made, as above specified, and in case of any disputes arising therefrom, such matters in dispute shall be settled by the administrator of water works and public buildings, or such other officer as the council may designate.

Also the rates for any form of water supplies, by meters or otherwise, not enumerated in the above schedule, and which may require establishing hereafter, shall be fixed by the lessees, with the approval of the city council.

The supply for engines, etc., at fires, shall be furnished without any charge, and every facility shall be afforded for a free and full supply of water for all such purposes. As the area for water supply is extended from year to year, as herein provided, the facilities for these fire purposes shall also be extended. The water shall also be furnished free and without charge to all city public buildings and grounds, including the cleaning of markets, and all fountains
1448 in any public squares or parks, and wheresoever the water may be required for public use in cleaning streets and flushing gutters. The lessees shall have full control over the connection of all side pipes with the principal pipes to connect the same with dwellings or for any other purposes, and any person or persons found tampering with the same in any way shall be guilty of a misde-

meanor, and may be punished according to law for depredations upon public property. The city council reserves to itself the right at all times to make and enforce all reasonable and proper regulations as to the place where the pipes may be laid in streets, lanes, alleys and public highways, and the conducting of all operations thereon and therein by said lessees. And whenever any excavations or tearing up of streets are made for the purpose of laying pipes or otherwise, the lessees shall be compelled to restore said streets to such condition as shall be perfectly satisfactory to the city authorities.

SEC. 7. *Be it further ordained, etc.*, That the lessees shall be required to give bond in the sum of $100,000, to the satisfaction of the council, and for the purpose of insuring the faithful performance of the terms and conditions of the lease. There shall also be required a deposit of $25,000 of bonds of the city of New Orleans in the hands of the administrator of finance accompanying each sealed proposal for the faithful execution of the notarial contract as herein provided, and after such execution the bonds so deposited shall be so surrendered and returned. But in case the successful bidder shall fail or decline to complete the notarial contract as herein provided, then the bonds deposited in accordance herewith by said bidder shall become forfeited to the city.

SEC. 8. *Be it further ordained, etc.*, That when it can be shown to the satisfaction of the city council that the lessees have expended in improvements a sum exceeding one million of dollars, then the lessees shall have accorded the right by a resolution of the city council to mortgage such improvements by an issue of bonds or otherwise, so bearing a lien upon said improvements; but no lien given shall extend beyond the period when the lease has to expire, as herein provided.

SEC. 9. *Be it further ordained, etc.*, That the lessees, before the expiration of the second year of their lease, shall be compelled to furnish water as specified in section two of this ordinance, at least over the area at present supplied with pipes, and shall make whatever expenditures may be required in the erection of reservoirs, laying of additional pipes, and performing any other work which may be necessary to accomplish this result. The area of water supply shall be extended thereafter from year to year to every point where it may be required by the city council within the present corporate limits of the city, embraced between the Mississippi river and the Metairie ridge; provided the lessees shall not be required to expend, after the end of said second year, more than $100,000 annually in laying pipes, etc., for such extensions.

SEC. 10. *Be it further ordained, etc.*, That the lessees under this ordinance shall not sell, assign, subrogate or sublease their rights and franchises in the lease of the said water works to any person or persons whatsoever, without the consent of the city council, and any such sale, assignment, subrogation or sublease shall subject the lessees to a forfeiture of their rights and franchises under this ordinance. But this shall not be considered as applying to any trans-

fers derived from the issuance of stock or otherwise, which may be necessary to carry out the objects herein specified.

SEC. 11. *Be it further ordained, etc.*, That at any time before ninety days have expired from the signing of the contract for the lease, if the lessees shall conclude not to use the Mississippi river as a source of supply, and shall determine to convey and introduce the water of the Tangipahoa river, along the line of the New Orleans, St. Louis and Chicago railroad, or otherwise, as a substitute
1449 for the water of the said Mississippi river, then the city council shall determine, within thirty days after the official notification of such determination on the part of the lessees, whether they will accept the proposition for the introduction of the Tangipahoa River water, and if accepted, the said lessees shall be allowed two years from the date of said acceptance in which to complete the necessary works of dams, canals, reservoirs, laying of pipes, etc., and obtaining rights of way for the same, in order to supply water as above required; provided, however, that in the meantime the old water works shall be operated with the same facilities as afforded by the city previous to the lease, and until such time as the Tangipahoa River water shall be successfully introduced as aforesaid.

The water which may thus be introduced from the Tangipahoa river shall be subject to the same general conditions as to quality and supply as is contained in the specifications for the use of the Mississippi River water, embodied in section two of this ordinance. In case of the successful introduction of said Tangipahoa River water, and it is found that no use can be made by the lessees of the engines and machinery of the present city water works, then the said engines, machinery, etc., shall revert at once to the possession of the city, and be disposed of as the city authorities may direct.

SEC. 12. *Be it further ordained, etc.*, That the administrator of water works and public buildings shall be authorized and required to advertise for sealed proposals for the lease of the water works, under this ordinance, for a period of sixty days from the date of the first advertisement, in the official journal in New Orleans, and said advertisements shall be made so as to embrace one daily paper each in New York, Philadelphia, Cincinnati and St. Louis, or any other places the said administrator may select. A sufficient number of the copies of the ordinance shall be published in pamphlet form, so as to supply all parties who may make application for the same by mail or otherwise.

SEC. 13. *Be it further ordained, etc.*, That within sixty days before the expiration of the full term of the lease, the entire improvements made by the lessees during the term of their lease shall be appraised by a board of arbitrators, consisting of the mayor, the city surveyor and five other persons, two of such persons to be appointed by the city council, and the other three by the lessees. Said arbitrators shall be duly sworn to perform their duties in a true, faithful and impartial manner. And the city of New Orleans, through its constituted authorities shall have the right to purchase the same at said appraised value by paying the said lessees for said improve-

ments, in ten equal annual installments in legal currency of the United States, the first payment to be made within thirty days after the expiration of the lease; otherwise the said lessees shall continue in all rights and franchises guaranteed under this ordinance, subject to the stipulations and limitations thereof, for an additional period of twenty-five years, at the end of which time all the property and franchises connected with the water works, including the property as per original inventory, shall revert to the possession of the city of New Orleans, without any compensation whatever therefor to said lessees.

SEC. 14. *Be it further ordained, etc.*, That in case the lessees shall, through carelessness or inefficiency, furnish water in a muddy state and not in accordance with the provisions of this ordinance, then it shall be competent for the city council, through its legally authorized representative, to institute suit against the lessees, and on proof of any such delinquency the lessees shall be bound to pay to the city the sum of $500 per day for each and every day so proved and adjudicated to be delinquent.

SEC. 15. *Be it further ordained, etc.*, That the time for receiving said proposals shall expire at the hour of twelve o'clock m. on the eighteenth day of August, 1875, and the administrator of
1450 water works and public buildings, in the presence of the mayor and at least three other administrators, shall proceed as soon as practicable thereafter, to open the sealed bids, and ascertain the result of the said proposals.

All bids then received shall be reported by the mayor at the next regular meeting of the council, and at that time the adjudication of the lease must be made or else all bids shall be rejected.

The successful bidder, when notified by the city notary, shall appear before him to sign the act and complete the contract within ten day after said notice.

SEC. 16. *Be it further ordained, etc.*, That the lessees shall assume any and all obligations which may have been heretofore entered into between the city and property-holders or others for limited supplies of water in consideration of moneys advanced; provided, that no such obligations shall be assumed exceeding in value the aggregate sum of $1500. And said lessees shall also assume the supply of water to consumers, under existing contracts, for the unexpired portion of the year ending September 30, 1875.

SEC. 17. *Be it further ordained, etc.*, That at any time during the progress of the lease, if any change of any character should be required to be made in conflict with the provisions of this ordinance, it shall be competent for said changes to be effected by mutual agreement between the lessees and the city council, and all such agreements shall be embodied in a notarial act the same as is provided for the ratification of the original contract.

SEC. 18. *Be it further ordained, etc.*, That it shall be the duty of the chief executive officer of the lessees to make an annual report to the city council, showing what works have been constructed, what duties have been performed, and any other matter which may be of

general interest to the public in connection with the management of said water works.

SEC. 19. *Be it further ordained, etc.*, That the administrator of water works and public buildings, or such other officer as the council may designate, shall be charged with the special superintendence of everything connected with a correct establishment and administration of water supply and water rates. Said officer shall employ such assistance, with the consent of the council, as he may deem proper and necessary for an efficient execution of the duties with which he is hereby invested, and shall also make monthly reports to the city council showing the progress of all new works, and report any delinquencies on the part of the lessees arising under the provisions of this ordinance.

SEC. 20. *Be it further ordained, etc.*, That the city council reserves the right to reject any or all bids, and to readvertise and resell if deemed advisable.

Adopted by the council of the city of New Orleans, June 15, 1875.

Yeas: Bertolli, Brown, Bouny, McCarthy, Pilsbury—5.

Nays: Burke, Landry.

CHARLES J. LEEDS, *Mayor.*

A true copy:

J. H. HARDY, *Secretary.*

MAYORALTY OF NEW ORLEANS,
CITY HALL, *September* 3, 1878.

(No. 4662, administration series.)

Resolved, That the sum of $25,000, in full settlement be and is hereby appropriated to the New Orleans Water Works Company for proportion of water rents collected by the city of New Orleans in advance, from April 10 to September 30, 1878, and that the administrator of public accounts warrant for the same, receivable in payment of water-works stock owned by the city.

1451 Adopted by the council of the city of New Orleans, August 27, 1878.

Yeas: Brown, Cavanac, Denis, Diamond, McCaffrey.

ED. PILLSBURY, *Mayor.*

A true copy:

THOS. G. RAPIER, *Secretary.*

MAYORALTY OF NEW ORLEANS,
CITY HALL, *September* 17, 1878.

(No. 4678, administration series.)

Resolved, That the following bid for stock owned by the city in the New Orleans Water Works Company, payable in the floating debt in conformity with ordinance No. 4459, administration series, be and is hereby accepted, and the administrator of finance is authorized to issue certificates accordingly on the production of the order and warrant of the administrator of public accounts, that the

requisite amount of floating debt has been surrendered and duly cancelled.

A. Bonneval, secretary, New Orleans Water Works Company, $25,000 for 250 shares.

Adopted by the council of the city of New Orleans, September 17, 1878.

Yeas: Brown, Cavanac, Diamond, McCaffrey, Rengstorff.

ED. PILLSBURY, *Mayor.*

A true copy:

THOS. G. RAPIER, *Secretary.*

1452 STATE OF LOUISIANA, *Parish of Orleans.*

Civil District Court for Parish of Orleans, Division E.

THE STATE OF LOUISIANA *vs.* THE NEW ORLEANS WATER WORKS COMPANY. No. 58345.

Richard Peete, being first duly sworn, deposeth and saith that he is over the age of twenty-one years; that he made and copied from the records of the city of New Orleans, from the records of the proceedings of the executive, legislative and ministerial departments thereof, all of the matters contained in the one hundred and twenty-six typewritten pages attached to this affidavit and made a part hereof and that, after having so made said copies, he carefully compared said copy with the original record thereof in the city hall, in the city of New Orleans, and saith that the same as set forth in said copy hereto attached is a true and exact copy of said original record thereof as the same exists of public record in the public archives of the city of New Orleans, and that he verily believes that there is no error or variance therein.

RICHARD PEETE.

STATE OF LOUISIANA, *Parish of Orleans.*

Subscribed and sworn to before me, the undersigned authority, this 29th day of August, 1899.

[L. S.] JNO. B. FISHER, *Notary Public.*

Act No. 164, 1856, *Sec.* 27.

Veto power of mayor.—SEC. 27. That all ordinances and resolutions, after having been passed by both boards of the common council, shall be transmitted to the mayor for his consideration, who, if he shall approve thereof, shall sign and publish the same; and such ordinances and resolutions shall thereupon have the force of law. But if the said mayor shall disapprove of any ordinance or resolution transmitted to him as aforesaid, he shall, within five days from

the time he received it, return the same to the board in which it originated, with his objections in writing, and if two-thirds of the members-elect to each board shall adhere to said ordinance or resolution, notwithstanding said objections, then, and not otherwise, the said ordinance or resolution shall after publication thereof, have the force of law; provided, always, that if the said mayor shall not return any ordinance or resolution, transmitted to him as aforesaid by said common council, within five days after it shall have been received by him, then he shall be deemed to have approved the same, and it shall have the same force and effect as if approved and signed by him.—Acts of 1856, p. 142.

Power of common council to pass ordinances and resolutions notwithstanding objections of the mayor.

(Endorsed:) No. 58345. Civil district court, parish of Orleans. Filed January 15, 1900. (Signed) C. H. Flemming, d'y clerk.

1453 *Copy of Mortgage by the New Orleans Water Works Company to Charles H. Heck.*

UNITED STATES OF AMERICA, }
State of Louisiana. }

CITY OF NEW ORLEANS, *December 22nd*, 1892.

Be it known that on this 22nd day of the month of December, in the year of our Lord one thousand eight hundred and ninety-two (1892), and of the Independence of the United States of America, the one hundred and seventeenth;

Before me, Charles Theodore Soniat, a notary public, duly commissioned and qualified for the parish of Orleans, State of Louisiana, and in the presence of the witnesses hereinafter named and undersigned: personally came and appeared; Messieurs Robert E. Craig, and Robert L. McMurdo, both of this city, and respectively the president and secretary of, and herein acting for the New Orleans Water Works Company, who declared that, whereas, the New Orleans Water Works Company has been duly incorporated under and by virtue of act No. 33 of the General Assembly of the State of Louisiana, passed during the extra session of 1877, approved March 31st, 1877, entitled An act to enable the city of New Orleans to promote the public health, and to afford greater security against fire, by the establishment of a corporation to be called the New Orleans Water Works Company; to authorize the said company to issue bonds for the purpose of extending and improving the said works and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water; to permit the holders of waterworks bonds to convert them into stock, and to provide for
1454 the liquidation of the bonded and floating debt of the city of New Orleans;

And an act No. 43 amendatory thereto passed during the regular session of the General Assembly of the State of Louisiana of 1878, approved on the 26th February 1878, entitled An act relative to the charter of the New Orleans Water Works Company and amending an act, No. thirty-three of extra session of 1887 approved March 31st, 1877,

And whereas section No. 9 of said act No. 33 provides "that the board of directors of said company shall have power, in addition to the authority to increase its capital stock to borrow money for the purpose of improving and enlarging its works, and increasing the supply of pure water; and to accomplish this purpose the said board of directors are hereby authorized to issue the bonds of the company to an amount not exceeding two millions of dollars, in such sums, on such terms, and bearing such rate of interest, as said board may determine, and the payment of said bonds, in principal and interest, may be secured by a mortgage of all the property and franchises of said company, including its franchise to be a corporation, and said mortgage may include the property and franchises of said company acquired or to be acquired, and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans shall operate on the property and franchises of said company, wherever situated, and shall be and continue a valid and subsisting mortgage until the payment of the debt secured by it, without reinscription; provided, however, that no bond shall be issued, or mortgages given, without the consent of the council of the city of New Orleans, and said bonds shall not be sold or disposed of except on such terms as shall be approved by said council of said city."

And whereas, the board of directors of the New Orleans
1455 Water Works Company at their meeting of January 6th, 1892, adopted the following resolution, to wit:

Extract from the minutes of meeting of board of directors Wednesday, January 6th, 1892, resolution offered by Mr. Baldwin, seconded by Mr. Nott, and carried.

Whereas it is indispensable to a safe, continuous and economical supply of water, that the machinery and plant of this corporation for pumping and delivering water through its mains and surface be renewed or altered to bring the installation up to the present state of the art in that class of machinery, and

Whereas it is desirable that an attempt be made to filter or otherwise clarify the water taken from the Mississippi river before its distribution through the mains, and free it as much as possible, from sediment before delivery for public or private consumption, and

Whereas the expense involved in such necessary modification and improvement of machinery and experiments and efforts to secure freedom from sediment in the water demands the immediate outlay of more money than can be safely taken from the current revenue and earning of the company, and

Whereas under the terms of its charter this corporation has au-

thority to borrow money for that purpose up to the maximum limit of two million ($2,000,000.00) dollars, with the consent of the council of the city of New Orleans, and

Whereas for the purpose of improving and enlarging its works, this corporation on the 1st day of April 1879, made and executed a mortgage bearing on all of its property to secure and issue of its bonds in the sum of five hundred thousand dollars ($500,000.00) with interest at the rate of six (6) per cent. per annum, bonds payable thirty years after the date thereof, and

Whereas of the said bonds so authorized and secured by
1456 said mortgage, bonds to the amount of only three hundred and ninety-five thousand ($395,000.00) dollars have been issued under and secured by said mortgage, and bonds of the said series of five hundred thousand dollars amounting to the sum of one hundred and five thousand ($105,000.00) dollars are still in the possession of this corporation, having never been sold or disposed of so as to become secured by said mortgage of April 1st, 1879, and

Whereas it is desirable, if a new loan is to be effected for the purposes above recited, that the entire loan should be upon the same terms and mature at the same time;

Be its resolved by the board of directors That the council of the city of New Orleans be requested to join this board of directors in the appointment of a joint committee to cancel and destroy all of the said bonds representings said one hundred and five thousand dollars of said series of five hundred thousand dollars that now remain in the possession of this corporation and were never issued, so that the operation and effect of the said mortgage of April 1st, 1879, shall be limited to stand as a security only for the said sum of three hundred and ninety-five thousand dollars, with stipulated interest represented by the said bonds with coupons attached that have already been issued and disposed of.

And be it further resolved That this corporation with the consent of the council of the city of New Orleans in order to realize the money and funds necessary to effect the improvements of said machinery and works, as before recited, borrow the additional sum of two hundred and fifty thousand dollars for the purpose of enabling it to enlarge, improve, repair or reconstruct its machinery, enlarge and improve its works and increase its capacity to supply water, and

for the purpose of attempting to deliver filtered water from
1457 its mains and service, and to that end, that this corporation make and issue its bonds, under its seal, in such form, and in such denomination and amounts named in each bond as shall be approved by the board of directors and the council of the city of New Orleans. The total issue of bonds not to exceed the sum of two hundred and fifty thousand ($250,000.00) dollars, at the rate of six per centum per annum interest to be represented by coupons attached to said bonds, payable semi-annually on the first Monday in January, and the first Monday in July, of each year, both principal and interest to be payable at the city of New Orleans.

The said bonds and coupons to be in such form as to pass in the

market by delivery, and to be payable to the holder or bearers thereof. That to secure the payment of the principal and the interest represented by said bonds and coupons, the president and secretary be, and are hereby authorized to make and execute, in due and usual form a mortgage and hypothecation of all the property and franchises of this corporation, subject to mortgage and hypothecation by the terms of its charter to the full extent and amount of the said two hundred and fifty thousand dollars and interest as aforesaid. The said president and secretary to submit the form of said mortgage and said bonds and coupons to a general or special meeting of this board of directors for approval, and the same shall not be executed, or the seal of the corporation attached either to the said mortgage or any of the said bonds, nor shall said bonds be issued until the same shall be approved and the consent of the city of New Orleans obtained, as provided in the charter of this corporation, and the said mortgage so executed shall stand and be second in rank to the said mortgage of date of April 1st, 1879.

The bonds not to be disposed of for less than par value of the bonds and the accrued interest on current unmatured interest coupon.

1458 Minutes signed R. L. McMurdo, secretary.

A certified copy of the foregoing resolution is annexed in the margin of this act for reference.

And whereas the council of the city of New Orleans has on the eighth day of the month of March, 1892, adopted the following ordinance, approved by Joseph A. Skakspeare, mayor of the city of New Orleans, on the 14th day of March, 1892, to wit:

Ordinance

No. 6104, council series.

Be it ordained by the council of the city of New Orleans, That the council of the city of New Orleans hereby gives its consent and approval to the issue of bonds of the New Orleans Water Works Company, secured by a mortgage of all the property and franchises of the said company, including its franchise to be a corporation for the purpose of improving and enlarging its works and increasing the supply of pure water as provided in and on the terms and conditions set forth in a resolution of the board of directors of the New Orleans Water Works Company adopted at a meeting of the board held on the 6th day of January, A. D. 1892, that is to say:

Two hundred and fifty bonds of the sum of one thousand dollars each, making a total of two hundred and fifty thousand dollars, said bonds to bear interest at the rate of six per centum per annum, payable semi-annually, in the city of New Orleans on the first Monday in January and the first Monday in July of each year. The principal of said bonds to mature and become due and payable twenty-five (25) years from the 1st day of January, 1892,

and in no case to be sold or disposed of by the said New Orleans Water Works Company for a sum less than the
1459 face value of the bonds at the rate of the issue and disposal of such bonds, as provided for in said resolution of said board of directors of the said New Orleans Water Works Company, at the said meeting of said board held on the 6th day of January, A. D. 1892, as the same is of record in the records of the proceedings of said meeting and the said city council hereby gives its full assent and approval required by section nine of act No. 33 of the extra session of the Louisiana State legislature, and all other laws relating to the issue of said bonds and securing the payment thereof by an act of mortgage in due form, hypothecating and mortgaging the said property and franchises of the said New Orleans Water Works Company, to secure the payment of the principal and interest of said bonds and that there may be full evidence of such consent and approval the mayor of the city of New Orleans, or any acting mayor, who may be acting at the time, is directed to intervene in said act of mortgage and express therein on the face of such act of mortgage the consent and approval of the city of New Orleans, and its city council to the issue of said bonds, borrowing of said money, and the execution of the said mortgage to secure the payment thereof both as to principal and interest.

Be it further ordained, by the council of the city of New Orleans, That the mayor of the city of New Orleans, or any acting mayor thereof, acting at the time, be and is hereby directed to join and act with the president of the New Orleans Water Works Company, or such other person as shall be appointed by the board of directors of the said water works company, and go before the notary public in the city and parish of Orleans before whom the now existing act of mortgage of the property and franchises of the said New Orleans Water Works Company was executed on the 1st day of April 1879, with the assent of the city council, to secure the payment of bonds to the amount of five hundred thousand dollars, as appears by said act of mortgage, as it is of record in the office of James Fahey,
1460 a notary public for the city and parish of Orleans, and in the office of the recorder of mortgages, in said parish, and carry and take with them before said notary, or such other notary public in and for the city and parish of Orleans as they may select, each and all of the said bonds secured by the said act of mortgage of April 1st, 1879 that have not been issued or disposed of by the said New Orleans Water Works Company, amounting in total to the sum of one hundred and five thousand dollars in bonds with the interest coupons attached and cause each and all of said bonds and coupons to be cancelled in the presence of the said notary public, and shall join said notary in the execution of a procès verbal by public act of such cancellation of said bonds and coupons, which shall fully describe the said bonds and coupons, the stamping and mutilation by which such cancellation is evidenced, or effected, so that each and all of said bonds with their coupons shall cease to be obligations of the said New Orleans Water Works Company with

authentic evidence of the cancellation there-, and that a copy of such procès verbal be recorded in the office of the recorder of mortgages in the parish of Orleans, where said mortgage of April 1st, 1879 is recorded, and that this ordinance shall go into effect from and after the date of its adoption and promulgation.

Adopted by the council of the city of New Orleans March 8th, 1892.

(Signed) ED. T. MANNING,
Clerk of Council.

Approved March 14th, 1892.
(Signed) JOSEPH A. SHAKSPEARE, *Mayor.*

A true copy
(Signed) WRIGHT SCHAUMBERG,
Secretary to the Mayor.

1461 And whereas, in conformity with the above-mentioned resolution adopted by the board of directors of the New Orleans Water Works Company on the 6th day of January, 1892 and in obedience to the ordinance above mentioned adopted by the city council on the 8th day of March 1892, the Honorable Joseph A. Shakspeare, mayor of the city of New Orleans, and Robert E. Craig, president of the New Orleans Water Works Company, did on the 30th day of the month of March, A. D. 1892, repair to the office of Joseph D. Taylor, a notary public, and city notary of the city of New Orleans, and there did carry and take with them before said notary two hundred and ten (210) bonds of five hundred dollars each, with sixty interest coupons thereto attached from the 1st day of April, 1879 to the 1st day of April 1909, bearing numbers 1 to 60; said bonds bearing numbers 791 to 1000 both inclusive; and each and all of the said bonds being secured by mortgage as per act passed before James Fahey, notary public, in this city, on the 1st day of April, 1879 and being the bonds that have not been issued or disposed of by the said New Orleans Water Works Company, amounting in total to the sum of one hundred and five thousand dollars ($105,000.00) in bonds; each and all of said bonds and coupons were cancelled, stamped and mutilated in the presence of said notary, Joseph A. Shakspeare, mayor of the city of New Orleans, Robert E. Craig, president of the New Orleans Water Works Company, and others; and a procès verbal by public act of such cancellation of said bonds and coupons was made by said notary fully describing therein said bonds and coupons, the stamping and mutilation by which such cancellation is evidenced or affected, so that each and all of said bonds with their coupons have ceased to be obligations of the said New Orleans Water Works Company, a copy of said procès verbal was recorded in the office of the re-
1462 corder of mortgages in the parish of Orleans in Book 165 folio 267 on the 21st day of December, 1892.

And whereas the council of the city of New Orleans has, on the 27th day of September, 1892, adopted the following ordinance ap-

proved on September 28th, 1892 by John Fitzpatrick mayor of the city of New Orleans, to wit:

Ordinance

No. 6744, council series.

Be it ordained by the council of the city of New Orleans, That ordinance No. 6104, council series, assenting to the issue of mortgage bonds by the New Orleans Water Works Company, bearing interest at the rate of six per cent. per annum shall be construed as giving the assent of the city of New Orleans and of the council thereof to the issue of bonds bearing the rate of interest six per cent. per annum, or any rate of interest lower than six per cent., that the board of directors of the New Orleans Water Works Company may deem for the best interest of the said company and its shareholders.

This ordinance to take effect and be in force from and after the date of its adoption and promulgation.

Adopted by the council of the city of New Orleans September 27, 1892.

(Signed) DAN. A. ROSE,
Clerk of Council.

Approved September 28th, 1892.

(Signed) JOHN FITZPATRICK, *Mayor.*

A true copy:

(Signed) CLARK STEEN,
Secretary to the Mayor.

And whereas the board of directors of the New Orleans Water Works Company, at a general meeting of said board held at the office of said company, on the 5th day of October, 1892, have
1463 adopted the following resolution:

Mr. A. Baldwin moved, seconded by Mr. Abraham, and carried, that city ordinance No. 6744, C. S., relative to changing rate of interest on second-mortgage bonds from six per cent. to five per cent. per annum be accepted.

A true copy:

(Signed) R. L. McMURDO.

And whereas the board of directors of the New Orleans Water Works Company at a meeting of said board held at the office of said company on the 7th day of December, 1892 have adopted the following resolution, to wit:

R. E. Craig, president, and R. L. McMurdo, secretary, reported to the board that pursuant to the terms of a resolution of the board of directors adopted at a meeting held on January 6th, 1892, a copy of which resolution is set forth in the form of mortgage submitted by them to the board, they caused to be prepared a form of mortgage

and bonds to the amount of two hundred and fifty thousand dollars, as directed in said resolution. The mortgage being the hypothecation of all the property of the company subject to mortgage, including its franchise or rights to be a corporation, to secure the payment of bonds of the company as provided for in said resolution, amounting to the total sum of two hundred and fifty thousand dollars, bearing date December — 1892, with interest coupons for interest at the rate of five per cent. per annum, payable semi-annually, on the first Monday in January and July each year. The principal to become due on the 1st day of January, 1917, the said bonds being fully and accurately described in the form of mortgage submitted, together with the said bonds to the board for its approval. *to* And the president and secretary having submitted the proposed mortgage as prepared for execution by Charles Theodore Doniat, notary public, containing a full description of said
1464 bonds and coupons as prepared, now ready for execution, the said mortgage and bonds as submitted were considered by the board and upon motion of Mr. A. Baldwin, duly seconded, the following resolution was unanimously adopted by the board.

Resolved, That the mortgage and bonds as submitted by R. E. Craig, Esquire, president and R. L. McMurdo, secretary are approved by the board, both as to the mortgage and bonds, and that the president and secretary be and are hereby authorized and directed to sign and execute the same as submitted and now approved by the board.

A true copy:

(Signed) R. L. McMURDO.

By reference to the hereto-annexed tax certificates from the office of the State tax collector of the first district of the parish of Orleans, it appears that the only State taxes that are due on the above-described real estate are those for the year- 1871 and 1892.

According to the hereto-annexed tax certificates from the office of the city comptroller it appears that the only city taxes that are due on the above-described real estate are those for the years 1879, 1880, 1881, 1882, 1883 and 1884.

As regards the city taxes above mentioned the above-named appearers do hereby declare that they are subject to the conditions set forth in the 30th section of act No. 56 of 1884, which provision as to said taxes has never been complied with by this city.

Now, therefore, the said Robert E. Craig, president, and Robert L. McMurdo, secretary, in their said several capacities and in behalf and for and in the name of the New Orleans Water Works Company,
1465 and by virtue of the foregoing resolution adopted by the board of directors of said company, and in furtherance of the foregoing ordinances adopted by the council of the city of New Orleans do hereby declare and acknowledge that the New Orleans Water Works Company is justly and truly indebted unto Charles H. Heck, a resident of the city of New Orleans in the full sum of two hundred and fifty thousand dollars ($250,000.00) lawful money

of the United States of America, unto the said New Orleans Water Works Company, by said: Charles H. Heck, loaned and advanced for the purposes set forth in said resolutions and ordinances, and for the reimbursement whereof, the said Robert E. Craig, president, and Robert L. McMurdo, secretary of the New Orleans Water Works Company have made and subscribed for and in the name of said New Orleans Water Works Company two hundred and fifty (250) bonds of one thousand dollars each, dated the 22nd day of the month of December, 1892 to mature and become due and payable twenty-five years from the 1st day of January, 1892; said bonds being made payable to bearer at the office of the said New Orleans Water Works Company in the city of New Orleans, with interest thereon at the rate of five per cent. per annum from the second day of January 1893, till paid, payable semi-annually to the bearer thereof, at the office of the New Orleans Water Works Company, in the city of New Orleans, on the 1st Monday in January and the 1st Monday in July; the said bonds bearing numbers one to two hundred and fifty both inclusive, and the interest is represented by 12000 coupons of twenty-five dollars each, numbered from one to forty-eight, inclusive, and same being attached to said bonds, which said two hundred and fifty bonds have been signed by the said Robert E. Craig, president, countersigned by Robert L. McMurdo, secretary and the impress of the seal of the New Orleans Water Works Company having been affixed to each and all of said
1466 bonds, and after having been by me, notary, paraphed "*Ne varietur*" for identification with these presents they were delivered by me, notary to the said Charles H. Heck, who does hereby acknowledge receipt of same for himself, and for such person or persons who may become the holder or holders of said bonds and coupons.

Now, in order to secure the full and punctual payment of said bonds and coupons, at maturity, the said Robert E. Craig, president, and Robert L. McMurdo, secretary of the New Orleans Water Works Company and by virtue of the foregoing resolution and ordinances do, by the- presents for and in the name and behalf of the New Orleans Water Works Company specially mortgage, affect and hypothecate unto and in favor Charles H. Heck, a resident of the city of New Orleans, and assigns, and such person or persons who may hereafter become the holder or holders of the aforedescribed bonds and coupons:

The following-described property, real, personal and mixed, rights, franchises and appurtenances, to wit:

All and singular the property, real and personal, of whatever nature or kind soever, belonging to the water works company constructed and established by the Commercial Bank of New Orleans and subsequently by the city of New Orleans, and the dikes, mounds, reservoirs, machinery and apparatus, engines, boilers, pumps, conduits, aqueducts, pipes, tools and all appurtenances thereunto belonging, or in anywise appertaining:

And the following-described real estate, to wit:

1st. A certain square of ground together with the reservoirs, buildings and all other improvements thereon, and the rights, servitudes, ways, privileges and appr*ur*tenances thereunto belonging or in anywise appertaining, situated in the Faubourg Annunciation, in the first district of the city of New Orleans, designated by the No. 18 on a plan of said Faubourg, drawn by B. Lafon, surveyor, dated the 15th day of March 1807; which said square is bounded by Religious St. Thomas (formerly St. John the Baptiste), Richard and
1467 Market street-, and it has a front on each of the said streets of three hundred feet;

And by a sketch made by Jules Allou d'Hemmecourt, city surveyor, dated the 15th day of April, 1878, and annexed for reference to an act of transfer by the city of New Orleans to the New Orleans Water Works Company passed before Gustave L'Gardeur, Jr., city notary on the 9th April, 1878, the said square is designated by the No. 83 and measures three hundred and nineteen feet eight inches and two lines front on said Religious street, three hundred and nin-teen feet ten inches and one line front on St. Thomas street, three hundred and nineteen feet eleven inches and one line front on Market street, and three hundred and nineteen feet ten inches and four lines on Richard street.

Second. A certain piece or portion of ground together with the buildings and improvements thereon and the machinery and apparatus, boilers, engines, iron, chimneys, and all the rights, privileges, servitudes, ways and appurtenances thereto belonging or in anywise appertaining, situated in the Suburb Lacourse, in the first district of the city of New Orleans, in the square bounded by New Levee, Tchoupitoulas, Richard and Orange streets, and measuring one hundred and ninety-one feet nine inches and six lines front on New Levee street, one hundred and ninety-one feet, nine inches and four lines front on Tchoupitoulas street, three hundred and eighty-three feet, seven inches and three lines front on Richard street, and three hundred and eighty-three feet seven inches and three lines on a straight line running from the termination of the line on said New Levee street to the termination of the line on said Tchoupitoulas street, parallel to Orange street, and dividing the said piece or portion of ground from the property now or formerly belonging to A. Caldwell and R. Toledano, which form the remainder of said square which is designated by the number
1468 39 on the aforementioned sketch made by J. A. D'Hemmecourt, according to which said sketch said piece or portion of ground measures one hundred and ninety-one feet six inches and six lines front on New Levee street, one hundred and ninety-one feet seven inches and six lines on Tchoupitoulas street, three hundred and eighty-three feet seven inches and two lines front on Richard street and three hundred eighty-three feet and eight inches on said line dividing the said piece or portion of ground from the property of Caldwell and Toledano.

Third. A certain square of ground, together with all the rights, ways, privileges and appurtenances thereunto belonging or in any-

wise appertaining situated in the first district of the city of New Orleans, comprised within Peters (late New Levee) Water, Orange and Richard streets, and designated by the number 39 A, as per plan drawn by Louis H. Pilie, surveyor, dated 29 June, 1867, and deposited for reference in the office of H. C. Dibble, then a notary in this city, as plan No. 19, according to which said plan said square is divided into twenty-eight lots, numbered from 1 to 28 inclusive, and they measure as follows:

Lot No. 1 forms the corner of Water and Richard streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width in the rear, by one hundred and nine feet and four inches in depth and front on Richard street.

Lots Nos. 2 to 11 inclusive, adjoin each other and measure each twenty-six feet and seven inches front on Water street by one hundred and nine feet and four inches in depth between parallel lines.

Lot No. 12 forms the corner of Water and Orange streets and measures twenty-six feet, nine inches and two lines front on Water street, twenty-six feet, nine inches and three lines in width
1469 in the rear, by one hundred and nine feet and four inches in depth and front on Orange street.

Lots Nos. 13 and 14 adjoin each other and measure each twenty-six feet on Orange street by one hundred and fifty-nine feet, eight inches and four lines, more or less, in depth between parallel lines.

Lot No. 15 forms the corner of Orange and Peters street-, and measures twenty-six feet, eight inches and six lines front on Peters street, twenty-six feet, nine inches and four and a half lines in width in the rear by one hundred and nine feet and four inches in depth and front on Orange street.

Lots Nos. 16 to 25 inclusive adjoin each other and measure each twenty-six feet and seven inches front on said Peters street by one hundred and nine feet, and four inches in depth between parallel lines.

Lot No. 26 forms the corner of Peters and Richard streets and measures twenty-six feet, nine inches and five lines front on Peters street, by one hundred and nine feet and four inches in depth and front on Richard street.

Lots Nos. 27 and 28, measure each twenty-seven feet front on said Richard street by one hundred and fifty-nine feet, eight inches and four lines in depth between parallel lines.

And — the aforementioned sketch made by J. A. D'Hemmecourt the said square is designated by the number 21 B, and measures three hundred and nineteen feet, four inches and four lines front on Water street, three hundred and nineteen feet, five inches and three lines front on Peters street, two hundred and seventy-two feet and eight inches front on Richard street and the same front on Orange street.

Being the same property which the said New Orleans Water

Works Company acquired by purchase from the city of New Orleans by act passed before said G. Le Gardeur, Jr., city notary, on the
1470 9th day of April, 1878, registered in the conveyance office of this city in Book 110, folio 453.

And in these presents are especially mortgaged, affected and hypothecated:

All the property and franchises of said New Orleans Water Works Company including its franchises to be a corporation, and all the property and franchises of said company acquired or to be acquired and the registration of said mortgage in the office of the recorder of mortgages for the parish of Orleans shall operate on the property and franchises of said company wheresoever situated, and shall be and continue a valid and subsisting mortgage until the payment of the debt secured by it without reinscription.

The said real and personal property rights and franchises are so to remain mortgaged and hypothecated until the full and final payment of the said bonds and coupons, the said Robert E. Craig president, and Robert L. McMurdo, secretary, hereby binding the said New Orleans Water Works Company, and its assigns not to sell, alienate, deteriorate, nor in anywise encumber any part, or parts of the hereinbefore-described and herein-hypothecated real and personal rights and franchises to the prejudice of these presents, the whole of which is hereby accepted by the said Charles H. Heck for himself, and any and all such person or persons who may become the holder or holders of said bonds and coupons.

By reference to the hereto-annexed certificate from the office of the recorder of mortgages for the parish of Orleans, dated the 22nd day of December, 1892, it appears that there are no other mortgages or encumbrances recorded against the New Orleans Water Works Company, and against the hereinbefore-described property, except the following, to wit:

1st. The drainage privilege on first property cancelled in Book 10, fo. 23, on the second property cancelled in Book 10, fo. 8 and on the third property due and not cancelled.

1471 2nd. The mortgage granted in favor of Adolphe Schreiber to secure the sum of five hundred thousand dollars, passed before James Fahey, notary, dated April 1st, 1879, recorded in Book 176, folio 130 on April 1st, 1879; now reduced to three hundred and ninety-five thousand dollars by cancellation of bonds to the extent of one hundred and five thousand dollars.

3rd. City taxes for the years 1879 to 1884 inclusive reported as being due.

And to these presents came and intervened Honorable John Fitzpatrick, mayor of the city of New Orleans, who declared that, by virtue of the foregoing ordinances, he, does by these presents approve the foregoing act of mortgage, and he does hereby give the consent and approval of the city of New Orleans and its city council to the issue of said bonds, borrowing of said money and the execution of the said mortgage securing the payment thereof, both as to principal and interest.

Thus done and passed at my office in this city, the day, month and year first above written, in the presence of Messrs. Melonch C. Soniat and Alfred S. Duffosat, competent witnesses, residing in this city, who have hereunto signed their names with appearers and me, notary, after reading the whole.

(Original signed) R. E. CRAIG, *President.*
R. L. McMURDO, *Secretary.*
CHARLES H. HECK.
JOHN FITZPATRICK, *Mayor.*
M. C. SONIAT.
ALF. S. DUFFOSAT.
CHARLES T. SONIAT,
Notary Public.

Recorded in the mortgage office Book 467, folio 663.
New Orleans, December 22nd, 1892.
(Signed) H. J. MURPHY, *Clerk.*
" JOS. BATT, *R. M.*

1471½ I, the undersigned notary do hereby certify that the foregoing is a true copy of the original act of record in my office.
In faith whereof I grant these presents under my signature and the impress of my office seal this 28th day of December, 1892.

(Signed) CHARLES T. SONIAT,
[SEAL.] *Notary Public.*

(Endorsed:) No. 58345 Civil district court, parish of Orleans.
Filed January 12th, 1900. (Signed) C. H. Flemming deputy clerk.

(Here follows tariff of water rates marked p. 1472.)

1473 STATE OF LOUISIANA, }
Parish of Orleans. }

Civil District Court for Parish of Orleans, Division "E."

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 53345.

Affidavit of Non-publication or Promulgation.

Richard Peete being duly sworn deposes and says that he is above the age of 21 years, and that he is an attorney-at-law by profession. That he has made diligent and careful search of the records of the city of New Orleans, and has examined and checked all of the promulgated ordinances of the city of New Orleans from the date when it acquired the water works from the late Commercial bank by act passed before Andrew Hero, Jun., notary public, on the 19th day of January 1869 by the city of New Orleans to the New Orleans water works until the sale of the said water works company by act passed before Gustave Le Gardeur, notary public, on the 9th day of April, 1878. That he has also examined the files of the newspaper, the New Orleans Republican, being the newspaper in which the proceedings of the council of the city of New Orleans were between the dates above given promulgated and checked off and examined all of the proceedings of the legislative department of the city of New Orleans and all ordinances published therein, checking the same by serial number of ordinances, and that he has also examined the files of the newspaper, the Commercial Bulletin that was by the city council elected official journal and bulletin of the city of New Orleans on the 6th day of July 1869 up to the time when the city charter of March 16, 1870, went into effect, all legislative proceedings and promulgation of ordinances, however, continuing in the New Orleans Republican as well as in said
1474 Commercial Bulletin, and as the result of the careful search and examination of both of said newspapers, I find that the proposed ordinance to establish the water rates for water supply to consumers of water from the public water works for the year 1870, adopted by the board of aldermen of the city of New Orleans and concurred in by the board of assistant aldermen at its session on the 18th day of December, 1869, and vetoed by John R. Conway, then mayor of the city of New Orleans on the 30th day of December 1869, and passed over the mayor's veto by the board of assistant aldermen at its session on the 11th day of January 1870 and by the board of aldermen at its session on the 8th day of March 1870, was never promulgated as an ordinance or given any number in the list of city ordinances and does not appear in the records of the city of New Orleans as a promulgated city ordinance.

That by my examination of the records of the city of New Orleans, it appears that the city government as established under act

No. 7 of the extra session of the legislature in 1870 approved March 16, 1870, repealing the former charter of the city of New Orleans was organized and went into active operation on the 4th of April 1870. That up to that date there had been no promulgation of said proposed ordinance fixing water rates for 1870 so passed over the mayor's veto, and that the city government under the charter of 1870 never caused the same to be promulgated or readopted at any time prior to the sale of the water works to the New Orleans water works company on April 9, 1878.

(Signed) RICHARD PEETE.

STATE OF LA., }
Parish of Orleans. }

Sworn to and subscribed before me, this 29th day of August, 1899.

(Signed) JNO. B. FISHER, *Not. Pub.*

[SEAL.]

1475 Endorsed: No. 58,345. Civil district court, parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer A No. —. Affidavit of Richard Peete of non-promulgation. No. 58,345. Civil district court parish of Orleans. Filed January 15th, 1900. A. H. Fleming, d'y clerk.

1476 *Proceedings "Board of Assistant Aldermen," November* 19, 1867, *March* 14, 1870.

The common council.

Board of assistant aldermen.

Regular session.

CITY HALL, NEW ORLEANS, *July* 6, 1869.

The board met in regular session.

President Pandely in the chair and Messrs. Kearney, Rose, Walker, Davis, Camp, Stringer, Grandpre, Barnes, Pasley, Wynne, Farrell, Breen and Pandely present.

"Joint session."

The board of aldermen and assistant aldermen convened in joint session, Mr. Wiltz in the chair, and twenty-three members present. The chair, after stating the object of the meeting, ordered nominations to be in order for election of an official journal.

On motion of Mr. Lagan, all the daily papers published in the city were placed in nomination. The roll being called the vote was announced as follows:

Picayune, 2; Bulletin, 19; Bee, 1; and blank 1.

The Bulletin having received a majority of the votes cast, was declared duly elected "official journal."

STATE OF LOUISIANA, }
Parish of Orleans. }

Richard Peete, being duly sworn, says that the above is a true copy of the original record in the city hall so far as relates to the election of the official journal of the city as he verily believes.

(Signed) RICHARD PEETE.

Sworn to & subscribed before me this seventeenth day of January 1900.

(Signed) A. H. FLEMMING, *D'y Clerk.*

1477 Endorsed: No. 58,345. Civil district court, parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer, A No. 7. Copy of proceedings of joint session of common council July 6th 1869. No. 58345. Civil district court, parish of Orleans. Filed Jan. 17, 1900. A. H. Flemming, d'y clerk.

1478 *Def't's Offer A No. 9.*

Golding's receipts for water furnished by city to his foundry, same containing meter rate per M.

Filed Jan. 15, 1900.

(A.)

No. 2370.

CITY WATER WORKS,
NEW ORLEANS, *July 1st*, 1869.

Received of Mr. Wm. Golding fifty-six dollars, 25/100 for a supply of water, at No. 246 New Levee street, from date to 1st Oct. 1869.

To be used in conformity to the regulations printed and exposed to view in the office of the water works.

$56.25 for 140647½ galls. 3rd quarter at 40c. per M.

(Signed) JAMES STRAWBRIDGE,
Water Registrar.

(2 cancelled 25c. and 5c. law stamps.)

(On reverse.)

For any failure in the payment of bills due, or for a violation of any of the rules or regulations of the works, which will be exposed to view at all times in the office, the water will be shut off, and payment already made will be forfeited.

Water rents are payable annually in advance on the 1st of January.

Quiconque enfreindra les réglements qui sont *publiés* et *exposés* aux regards du public aux bureaux de la Compagnie, on quiconque refusera de payer son compte, sera privé de l'eau, et en outre perdra le montant qui aura été payé.

L'eau sera payée d'avance pour l'année, l'année commencant le 1er Janvier.

(Written:) Exhibit "E" Civil D. ct. 9564. Levy *vs.* N. O. W. W. Co. M'ch 9, '85. M. B. Jr. sten. Offered in evidence by def'd't. Filed May 5th, 1885. Joe Garidel, d'y clerk.

1479 (B.)

No. 839.

CITY WATER WORKS,
NEW ORLEANS, *October* 1*st*, 1871.

Received of Mr. Wm. Golding two hundred & forty-two dollars, /100 for a supply of water, at No. 246 & 254 W. C. New Levee street, from date to 1st October, 1872.

To be used in conformity to the regulations printed and exposed to view in the office of the water works.

$242.00 for foundry, engine, forges, hands.

(Signed) L. E. COUVERTIÉ,
Assessor & Collector.

(2 cancelled 25c. and 5c. law stamps.)

(On reverse.)

For any failure in the payment of bills due, or for a violation of any of the rules or regulations of the works, which will be exposed to view at all times in the office, the water will be shut off, and payment already made will be forfeited.

Water rents are payable annually in advance on the 1st October

Quiconque enfreindra les réglements qui sont *publiés* et exposés aux regards du public aux bureaux de la compagnie, ou quiconque refusera de payer son compte, sera privé de l'eau, et au outre perdra le montant qui aura été payé.

L'eau sera payée d'avance pour l'année, l'année commencant le 1er Octobre.

Exhibit "C" C. D. C. 9564 Levy *vs.* N. O. W. W. Co. M'ch 9, '85. M. B. Jr. sten. Offered in evidence by def'd't. Filed May 5th, 1885. Joe Garidel, d'y clerk.

1480 C.

No. 112.

COMMERCIAL BANK WATER WORKS,
NEW ORLEANS, *January 1st*, 1867.

Received of Mr. Wm. Golding two hundred dollars /100 for a supply of water at No. 241 & 254 New Levee street, from date to 31st December, 1867.

To be used in conformity to the regulations printed on the back of this receipt.

$246 for foundry.

(Signed) S. E. PLEY, *Secretary.*

(2 cancelled 25c. and 5-. law stamps.)

(Endorsed :) Exhibit "B" C. D. C. 9564 Levy *vs.* N. O. W. W. Co. M'ch 9, '85. M. B. Jr. sten. Offered in evidence by def'd't. Filed May 5th, 1885. Joe Garidel, d'y cl'k.

1481 (D.)

No. 1019.

CITY WATER WORKS,
NEW ORLEANS, *Jan'y 1st*, 1869.

Received, of Mr. Wm. Golding fifty-five dollars 11/100 for a supply of water, at No. 246 New Levee street, from date to 31st December, 1869.

To be used in conformity to the regulations printed and exposed to view in the office of the water works.

$55.11 for water furnished to date by meter meas't 137,786 galls. at 40c. per 1000.

(Signed) JAMES STRAWBRIDGE,
Water Registrar.

(2 cancelled 25c. and 5c. law stamps.)

(On reverse.)

For any failure in the payment of bills due, or for a violation of any of the rules or regulations of the works, which will be exposed to view at all times in the office, the water will be shut off, and payment already made will be forfeited.

Water rents are payable annually in advance on the 1st October.

Quiconque enfreindra les réglements qui sont *publiés* et *exposés* aux regards du public aux bureaux de la compagnie, ou quiconque refusera de payer son compte, sera privé de l'eau, et en outre perdra le montant qui aura été payé.

L'eau sera payée d'avance pour l'aunée, l'année commencant le 1er Janvier.

Endorsed: Exhibit "A" C. D. C. 9564 Levy *vs.* N. O. W. W. Co. M'ch 9. '85. M. B. Jr. sten. Offered in evidence by def'd't. Filed May 5th, 1885. Joe Garidel, d'y cl'k.

1482 E.

No. 1020.

CITY WATER WORKS.
NEW ORLEANS, *Jan'y 1st*, 1869.

Received, of Mr. Wm. Golding fifty-five dollars 11/100 for a supply of water, at No. 246 New Levee street, from date to 31st December, 1869.

To be used in conformity to the regulations printed and exposed to view in the office of the water works.

$55.11 for water furnished foundry 246 New Levee from date to June 30, '69.

(Signed) JAMES STRAWBRIDGE,
Water Registrar.

(2 cancelled 25c. and 5c. law stamps.)

(On reverse.)

For any failure in the payment of bills due or for a violation of any of the rules or regulations of the works, which will be exposed to view at all times in the office, the water will be shut off, and payment already made will be forfeited.

Water rents are payable annually in advance on the 1st of January.

Quiconque enfreindra les réglements qui sont *publiés* et *exposés* aux regards du public aux bureau de la compagnie, ou quiconque refusera de payer son compte, sera privé de l'eau, et en outre perdra le montant qui aura été payé.

L'eau sera payée d'avance pour l'année, l'année commencant le 1er Janvier.

It is understood and agreed that should a greater or less amount be shown by the meter to have been used during the 2nd quarter than is charged for in this bill a corresponding addition or deduction from the bill for the 3d quarter will be made.

(Endorsed:) Exhibit "D" C. D. C. 9564. Levy *vs.* N
1483 O. W. W. Co. M'ch 9, '85. M. B. Jr. sten. Offered in evidence by def'd't. Filed May 5th, 1885. Joe Garidel, d'y cl'k.

(Endorsement:) No. 58,345. Civil district court, parish of Orleans. State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer, A No. 9, Golding's receipts for water furnished by city to his foundry same containing water rate per M.

(Stamped:) No. 58345. Civil district court, parish of Orleans. Filed Jan. 15, 1900. A. H. Flemming, d'y clerk.

(Stamped:) Civil district court. 30 Jan. 15 1900 Paid Paul O. Guerin, clerk.

1484 *Report of the Department of Water Works and Public Buildings from Dec. 19th, 1876, to Dec. 31st, 1877.*

New Orleans, Jan. 15th, 1878.

1484*a* Report of the department of water works and public buildings from Dec. 19th, 1876, to Dec. 31st, 1877.

New Orleans, Jan. 15th, 1878.

1484*b* Officers of the department of water works and public buildings:

Administrator, Hon. James D. Edwards.
General superintendent, S. W. Scott.
Chief clerk, Edward Keena.
Book-keeper, Theodore Durel.

1484*c* Office of the administrator of water works and public buildings, room 23, city hall.

NEW ORLEANS, *January 15th*, 1878.

To the Hon. Ed. Pilsbury, mayor, and administrators of the city of New Orleans.

GENTLEMEN: I have the honor to submit herewith, the annual report of the superintendent of this department, for the year ending December 31st, 1877. In doing so, I deem it necessary to state, that when I entered upon the duties of my office, December 18th, 1876, I found the condition of the institutions belonging thereto, such as to necessitate the immediate purchase of supplies for all of them, and that all public buildings in the department required immediate repairs, all of which, with a few exceptions, I have done, I trust, to your satisfaction, and without going beyond the limited amount placed to the credit of my department in the budget for the year, and payable out of the revenues of 1877.

While it was a matter of great surprise to find so few records to assist me in organizing my department, I have, with the untiring assistance of my superintendent, S. W. Scott, now placed the department in a position with all necessary data and information for any future administration (or the water works company), to ensure its continued improvement in every respect; and if it should become possible for the city (or the water works company) to make certain improvements, several of them suggested by my superintendent in his report, the revenue from water rents could be very largely increased, and without any increase of rates over those charged this year.

In conclusion, I take pleasure in informing you, that I have every reason to anticipate a large increase from water rents for the year 1878, over those of 1877, and without going beyond the still more

limited amount placed to the credit of my department, for supplies, wages, etc., than allowed in budget of 1877.

Thanking you, gentlemen, for the uniform courtesy and assistance you have all afforded me, in the discharge of my duties, whereby my superintendent has been enabled to report so great an improvement in this department, and recommending all the officers and employees of my department to your favorable consideration.

I remain, very respectfully, your obedient servant,

JAMES D. EDWARDS,
Administrator of Water Works and Public Buildings.

1484*d* *Report of Superintendent.*

Superintendent's office, department of water works and public buildings.

NEW ORLEANS, *January*, 1878.

To the Honorable James D. Edwards, administrator of the department of water works and public buildings.

DEAR SIR: I have the honor herewith to submit the following report of the workings of this department, from the 18th day of December, 1876, the date of your taking charge of the same, up to the 31st day of December, 1877.

As this is one of the most important of the departments of the city government, one in which every citizen of New Orleans has a vital interest, and one upon which depends in a great measure the health, comfort and welfare of our entire community, I have deemed it proper to give a full and explicit account of the condition of the department when received by you, from the hands of the preceding administration. The amount of improvements and repairs which have been made under your direction, notwithstanding the limited amount of money allowed this department, owing to the financial condition of the city; and such recommendations and suggestions as, in my judgment, if carried out, will make this department not only a self-sustaining institution, but one that will pay a very considerable amount of revenue into the city treasury.

Condition of department, December 18th, 1876.

This department, on the above date, was in the most dilapidated and deplorable condition.

At the works there was not coal enough to last forty-eight hours, and all of the public buildings were entirely out of fuel; some of the courts having adjourned for the want of fire to keep their court-rooms comfortable.

From long neglect, and a total want of care, the machinery at the works had become almost entirely useless; the boilers were filled to the depth of three or four inches, with scales and sediment, necessitating the consumption of a larger amount of coal than would have been necessary, if they had been in order and properly attended to.

The habit of washing out the boilers with cold water while they were hot, had nearly ruined an otherwise nearly new set of boilers, and made it necessary to put upon them large and expensive repairs.

The engines and pumps were out of order in almost every respect; packing rings and set springs of the engines broken, worn out and perfectly useless, required to be immediately replaced with new ones, besides a great many other necessary repairs upon the engines.

The pumps, for the want of repacking and repairing, were not capable of supplying one-half of the water they could if in good order.

The mouths of the suction pipes in the river were so near the bottom as to make it difficult to obtain any water at all, there being, at times, not over five or six inches between the suction pipe and the sand.

The general service in the streets was all out of order; main pipes, main stop-cocks, fire-plugs, fire-wells, etc., etc., all requiring a general overhauling and repairing. I found over two hundred of the main stop-cocks, some of them on the largest main pipes, broken and out of order, the screws stripped or rusted off, allowing the gates to drop down and stop up the pipes as effectually as if they had been hermetically sealed.

The fire-plugs, of which there are over twelve hundred, were more than one-half of them out of order, and stopped up with mud for want of being properly attended to, and many of them unserviceable, except as a means of supplying water to non-paying consumers.

Upon the books of the department there was found nearly one-half of the private hydrants reported closed; but upon making a thorough survey and examination, it was found that very many of those reported closed, were open, and, in many instances, the parties using the water claimed that, for political service rendered to some one or another, the city had no right to charge them for water, and refused to pay. Gentlemen, who, in the ordinary transactions of life, are honest and respectable, were found taking that which did not belong to them, simply because it was the property of the city of New Orleans.

The cement pipe, of which there is a little over two miles now in use, is almost entirely worthless, and a perfect nuisance, it having cost fully one-half as much during the past year to keep it in repair, as it would to have replaced it with new iron pipe, besides, it prevents us from carrying a proper pressure upon the balance of the works; it would be very easy to double the pressure if the cement pipe was all taken up and replaced with iron pipe; the expenses would be but a trifle more than they are now—simply the cost of a few barrels more of coal daily.

At the works, the boilers have all been repaired and reset, and put in as good condition as it is possible to make them.

The engines, pumps and other machinery have all been repaired and put in complete and perfect order.

The street service, main pipes, main stop-cocks, fire-plugs, fire-wells, etc., have all been overhauled, repaired and put in good
1484c working order; but from the fact that much of this branch of the department has been in constant use for thirty or forty years, and is much worn, it requires the most constant watchfulness and care to keep in good condition.

There is coal enough on hand at the works, which has been purchased at an average of about 38½ cents per barrel, to last until the middle or last of March next; and the city water works are in a much better condition, and can furnish a much greater supply of water than they could for many years past, and the revenues of the works have been nearly double the estimates made by the former officers of the department; and the public buildings of this city are in better repair than they have been since 1861. With this condition of the department now, it requires much less money for repairs during the next year than was actually necessary in the past year, which will enable the city to make many much-needed extensions, etc., from the revenues alone of the present year, which are estimated fully one-third more than last year's receipts.

Recommendations, etc.

As this is the only city in the world, I believe, where the water works are expected to do the work of the street scavengers, I would respectfully recommend that an ordinances be passed by the city council, prohibiting the contractors for cleaning the streets from epening only a limited number of fire-plugs in any of the different districts of the city, at one time, and only between certain stated hours, as they are in the habit at present of opening a great many more plugs than is necessary, and having them running for hours after the work is done, and they should be closed.

During the summer, when it is deemed necessary by the board of health to flush the streets for sanitary purposes, I would recommend that it be done only by the employees of this department, upon the orders of the proper health officers. It is very doubtful if flushing the gutters in the front part of the city is beneficial to the general public. The result is to cover the filth for a short time, or wash it back upon the poor residents in the rear of the city, there to reek, decompose and pollute the atmosphere, at the expense of the public health.

If this waste of water be considered necessary, it would be great economy to construct sluices through the levee into the river, with a small pumping apparatus attached, to pump the water into the gutters whenever the level of the river is below the streets. About one of these in each district would be sufficient, and besides, they would be very serviceable in case of fires.

The water now used is raised on an average of seventy-five feet above the river for the purpose of pouring it into the gutters; ten feet would accomplish the same purpose at about one-eighth of the expense.

I would also recommend that the police be instructed to enforce ordinance 475, administration series, as it is impossible, and always will be, no matter how much the works may be improved, to keep up the necessary pressure for use in case of sudden and large fires, unless some such measures as these are adopted.

Repairs, extensions, etc.

I would respectfully recommend that the following repairs, extensions, etc., be made in the order named; all of which can be done in a short time, from the revenues of the department alone, besides paying the current running expenses.

1*st*. As there has been a sand bar formed in front of the works, the suction pipe should be extended forty-five feet further into the river, and the foot or check valves moved out a corresponding distance. This would bring the openings of the suction pipes into the edge of the current of the river, which would at once give a much purer supply of water, besides, the engines would work with greater ease and consume less coal; although the lift through the pipes would be longer, it would not require as much power as it does now to draw the water over the bar in front of the suction pipes with the openings as close to the bottom as they are at present.

There should be constructed, both above and below, the suction pipes, piers or bulkheads, extending into the river at least ten feet beyond the ends of the pipes, with a straining or filtering apparatus extending from one to the other; this could be constructed at a much less cost than it would require to build settling reservoirs, and would at once give a full supply of pure and wholesome water.

The great purity of the Mississippi water, at this point, cannot be denied, and is readily accounted for. The waters of all streams are originally derived from springs and surface drainage. The former being from the bosom of the earth, in solution or suspension, large quantities of inorganic substances, and to the latter added immense amounts of organic matter swept from the *surface*. For several hundred miles above New Orleans, owing to the peculiar topography of the country, *no streams enter the Mississippi, and all surface drainage is from the river*. During the passage of the water over this distance, substances thus held and brought into contact with each other, and with the oxygen of the atmosphere, by the constant agitation and motion of the water, are decomposed, and the elements, reuniting, form new compounds, generally innoxious, the gases escaping into the atmosphere, and the solids subsiding. In this way nearly all the deleterious substances brought with the Mississippi are disposed of before the waters reach this point.

1484*f* It is useless to talk of bringing water from the Tangipahoa river; it is not practicable; the cost would be too great ever to pay. Besides, with the Mississippi river passing by our doors, with an overabundant supply of water, as pure and wholesome as any other, if it is properly handled, it would be folly to attempt it.

2d. The 30-inch pipe now running from Canal to Calliope street, and supplied with only one 16-inch and one 18-inch pipe, should be extended from Calliope street up to the works, and from Canal street down to Elysian Fields street, and all of the largest pipes running from the river toward the rear of the city connected thereto, as there is plenty of power in the engines and pumps to force the water into the third or fourth story of every house in the city, if the pipes were properly arranged. The capacity of the smaller engine is 460 gallons to the stroke, or about 10,000,000 gallons per day of 24 hours; of the larger engine 1020 gallons per stroke, or about 30,000,000 of gallons per day of 24 hours.

The present consumption of water for all purposes does not exceed 7,000,000 gallons per day, and the larger engine has not been run over ten days since last February, and then only while the smaller engine was being repaired; for the reason that if the larger engine is run over two or three hours the reservoir overflows, and the water runs back into the river; or, if pumping direct into the pipes, it causes leaks all over the city wherever the cement pipe is laid.

3d. The one-half of the reservoir now standing is in very good order, excepting it is about one-half filled with mud, and must be cleaned out. The other side, which has been broken down for several years, should be repaired. And unless a straining or filtering apparatus be constructed outside of the opening of the suction pipes, settling rese-voirs, or sufficient capacity for at least twenty-four hours' supply, must be constructed before even comparative pure water can be obtained. Besides, the present system of pumping direct from the river into the distributing mains is rapidly filling up the pipes with mud and sediment, which is difficult to remove.

4th. In many locations the pipes are entirely too small, and should be taken up and replaced with larger ones; the pipes taken up could be relaid in other places where there is less water required.

Common street for instance, is supplied from a 3-inch main. The pipe in this street should be at least eight inches in diameter, and I would recommend that no pipe be used less than four inches, except in very few localities.

5th. As there is at present but a little over sixty-three miles of supply mains in the whole city, and as the engines and pumps are of sufficient power and capacity to supply fully as much more, and as there is a large portion of the city—some of it built up with our finest and most costly residences—entirely without a supply of water in case of fire, I would recommend that the supply mains be extended in these localities as rapidly as possible.

The cost of labor and material has never been as low as it is at the present time; the cost of laying down new mains would not exceed five to six thousand dollars per mile.

6th. As there are many localities in the city, thickly populated, built up of light and inflammable material, where it would not

pay to extend the water mains, I would recommend the construction of "fire-wells" in all of these districts.

No fire department can do itself justice without an ample supply of water, promptly furnished. After repeated experiments, it has been decided by all parties interested that for our peculiar topography, where an elevation for reservoirs cannot be had, the "fire wells" is the best and cheapest means yet devised. In every instance fires occurring in the vicinity of the wells already located have been promptly extinguished with comparatively trifling loss. The saving of property already by the few in use has been sufficient to pay many times over the necessary cost of placing them in all of those localities throughout the city.

Tariff of water rates.

As there are daily applications at the office for a reduction of water bills, I would respectfully recommend that a carefully studied and revised tariff of water rates be fixed, and that when the assessments are made, and the bills made out, no reduction whatever be made except in very exceptional cases.

In some cities an annual tax per foot front is assessed on all property where main pipe is laid.

In other cases, every building wherever the pipe is laid is assessed the regular water rate, and is collected from the owner, whether the water be taken or not. The last plan has one great merit to recommend it. The charge being universal, the rate may be made so low as to be almost inappreciable, and at once removes all motives for the consumer to have his hydrant opened without giving notice at the office, and often using water for a long time without paying for it.

A very simple calculation shows that the property-owner, by the extension of the pipe to his premises, so as to supply water for street-cleaning, extinguishing fires, etc., saves on insurance four or five fold the charge made on the above plans; and more than would be necessary to pay his water rents for all domestic purposes.

For any further information or matters of detail, I would respectfully refer you to the following statement tables, etc.:

1484*g*

STATEMENT A.

Showing the amount of collections made for the fiscal year ending September 30th, 1877.

Collected by former administration from October 1st, to December 18th, 1876, inclusive	$14,699 00
Collected by the present administration from December 19th, 1876 to September 30th, 1877, inclusive:	
1876. December 19th to 31st	$4,915 85
1877. January	30,181 38
" February	18,739 84
" March	12,905 50
" April	7,896 00
" May	4,786 00
" June	3,676 00
" July	3,137 95
" August	1,395 00
" September	445 50
Total collections for the fiscal year ending September 30th, 1877	$92,878 02

STATEMENT B.

Showing the amount of collections made by the present administration from December 19, 1876, the date of taking charge of the department, up to December 31st, 1877.

1876. December 19 to 31 inclusive	$4,915 85
1877. January	20,181 38
" February	18,739 84
" March	12,905 50
" April	7,896 00
" May	4,786 00
" June	3,676 00
" July	3,137 95
" August	1,395 00
" September	445 50
" October	14,994 16
" November	18,042 00
" December	15,573 50
Total	$126,688 68

STATEMENT C.

Showing the amount of collections made in the first three months of the fiscal years ending September 30, 1877, and September 30, 1878.

Year ending September 30, 1877	$19,614 85
Year ending September 30, 1878	48,609 66

STATEMENT D.

Showing the amount of wages paid in the department of water works from December 19, 1876, to December 31, 1877, inclusive.

Pay-rolls.

	Hydrant service.	Pumping service.	Street service.
1876. Dec. 19 to 31	$562 39	$561 93	$339 00
1877. January	1,120 00	1,025 15	775 00
1877. February	1,245 00	1,098 00	685 25
1877. March	1,195 00	1,053 00	841 50
1877. April	1,195 00	1,053 00	840 00
1877. May	1,195 00	1,053 00	864 00
1877. June	1,195 00	1,053 00	888 00
1877. July	1,125 00	1,053 00	912 00
1877. August	1,125 00	1,053 00	1,026 00
1877. September	1,130 00	1,023 00	912 00
1877. October	1,100 00	1,111 00	1,020 00
1877. November	1,130 00	1,053 00	850 00
1877. December	1,200 00	1,053 00	944 00
	$14,517 39	$13,243 08	$10,896 75

Recapitulation.

Hydrant service	$14,517 39
Pumping "	13,243 08
Street "	10,896 76
Total	$38,657 22

STATEMENT E.

Showing the amount of sundry expenditures for the department of water works from Dec. 19, 1876, to Dec. 30, 1877.

	Rent of office.	Supplies, etc.	Fuel, coal, etc.	Castings, pipes, etc.	Repairs and m'hinery.	Paints, oil, etc.	Statio'ery blanks, books, etc.	Lumber.	Sundries, tools, etc.
1876.									
December 19th to 31st	$50 00	$63 35		$14 00					$24 15
1877.									
January	75 00	216 73						4 70	114 50
February	75 00	126 66	120 00	85 75	108 90				78 75
March	75 00	305 13	3,956 44	90 35	183 25			84 33	94 20
April	75 00	148 50		75 00		70 20			73 75
May	75 00	162 28		14 35		187 15			41 50
June	75 00	264 82		918 65	30 98	7 60		15 51	39 75
July	75 00	280 31	6,753 80	74 55	1,036 41		46 00	109 06	26 75
August	75 00	191 50		301 90			6 00	72 04	28 40
September	75 00	95 08		169 11	315 00		67 75		104 00
October	75 00	92 20		82 46			27 45	27 31	87 60
November	75 00	140 48		46 28			5 00		63 40
December	75 00	11 10		17 75					19 75
Total	$950 00	$2,098 23	$10,830 24	$1,890 15	$1,674 54	$264 95	$152 20	$312 95	$973 50

Recapitulation.

Rent of office No. 36 Dryades street	$950 00
Supplies—oil, tallow, packing, waste, etc	2,098 23
Fuel, coal, wood, etc	10,830 24
Pipe, castings, etc	1,890 15
Repairs to machinery, boilers, etc	1,674 54
Paints, oils, etc	264 95
Stationery, blanks, blank books, etc	152 20
Lumber, etc	312 95
Sundries, tools, etc	973 50
Total	$19,146 76

STATEMENT F.

Showing the actual cost of the operating department of "water works proper" from December 19th, 1876, to December 31st, 1877.

Salaries, wages, etc., as per statement "D."	$38,657 22
Fuel, repairs, sundry expenses, etc., as per statement "E."	19,146 76
Total cost of operating works, etc.	$57,803 98

In making up a statement of the profits or loss of the department of water works to the city of New Orleans, a most important item is the cash value of the quantity of water consumed, for all public purposes.

The city of New York pays for water the same as any other consumer. This is the case in many other large cities, and in nearly every place where the water works are owned and operated by private corporations.

The annexed statement marked "G," is based upon the lowest tariffs given by any water works in the country, and will give a fair estimate of the value of the water consumed by the city of New Orleans, for public purposes, and is much lower than the average assessment to the private consumer in proportion to the quantity of water used.

1484*i* STATEMENT G.

Showing the estimated quantity of water used by the city of New Orleans for public purposes.

Public schools, etc.	$1,500 00
Asylums and charitable institutions	1,000 00
City hall, for all departments	500 00
City pounds, employees, animals, etc.	250 00
Recorders and criminal courts	100 00
Police stations, department and men	1,000 00
Charity hospital—about 100 rooms, steam-engine, kitchen, wash-room, water-closets, 25 faucets, 12 hydrants, and an average of over 700 officers, inmates, etc.	1,500 00
Public hydrants, in squares, markets, etc., "constantly running"	1,250 00
Workhouse—officers, men, animals, etc	50 00
Parish prison—two hydrants and one three-inch fire-plug, and an average of 450 officers, employees and inmates	1,000 00
Court buildings	250 00
Fire-engines and *truck-houses*—men, horses, etc	1,500 00
Extinguishing fires, flushing gutters, washing streets, etc., using fully one-third of the whole quantity of water pumped—or 806,863,748 gallons, at 10 cents per 100 gallons	80,686 37
Total estimated value of water consumed by the city of New Orleans	$90,586 37

STATEMENT H.

Showing actual receipts in cash, value of supplies, etc., on hand, purchased during the year—estimated cash value of water consumed by the city for all public purposes, etc.

Also actual cost of operating the works, the amount of interest on the outstanding bonded debt, and the net profit derived by the city of New Orleans from the department of water works for the year ending December 31st, 1877.

Cash received and turned over to the administrator of finance	$121,772 83
Cash value of fuel, supplies, etc., purchased during the year, "now on hand"	1,762 70
Cash value of water consumed by the city for all public purposes, estimated	90,586 37
Total	$214,121 90
Cost of operating works, as per statement marked "F".	57,803 98
Five per cent. interest on *total* bonded debt	69,620 00
Total	$127,423 98
Net profit to the city, for the year	86,697 92

1484j

STATEMENT I.

Showing the quantity of water pumped and used, the number of hours worked, the pressure or average height of water in feet at the works, foot of Richard street, and also at the office, 36 Dryades, near Canal street.

	Gallons of water pumped.	Hours worked.		Pressure at works.	Pressure at office.
		Old engine.	New engine.		
January	213,567,000	359¾	308¾	51 ft. 4/10	20 ft. 1/10
February	167,965,740	453	57¾	49 " 8	21 " 2
March	180,715,420	588		44 " 6	22 " 2
April	168,014,880	501¼		46 " 3	22 " 5
May	203,675,070	511¾	11	45 " 1	22 " 0
June	190,913,320	514¾	355½	47 " 7	24 " 2
July	212,277,660	581¾		48 " 1	25 " 7
August	223,894,780	546	41½	48 " 3	25 " 9
September	217,304,580	580¼	76¾	49 " 1	25 " 5
October	219,510,280	560¼	41	47 " 2	24 " 2
November	208,446,360	584¼		48 " 9	23 " 8
December	202,306,080	583		46 " 8	25 " 7
Total	2,408,591,230	6,064¼	892¾	47 8/10	280

Daily average quantity of water pumped, 6,598,880 galls.
" " hours worked, 19¾.
" " pressure at works, 47 ft. 8/10.
" " " " office, 23 ft. 6/10.

STATEMENT J.

Showing the quantity of coal oil, tallow, etc., used and consumed by the department of water works for the year ending December 31st, 1877.

	Barrels of coal consumed.	Gallons of oil used.	Pounds of tallow used.	Pounds of packing.	Pounds of cotton waste.
January	3,504	84	186	60⅜	43½
February	2,062	56	144	60¾	53
March	2,061	52	155	19	21
April	1,838	42¼	150	18	85
May	2,058	44¼	164	21	81½
June	2,222	59¼	176	84	57½
July	2,147	56	187	58½	67
August	2,154	65½	193	63¼	57½
September	2,193	67	190	76	57
October	2,021	63	193	21	43½
November	1,746	46½	180	13	28
December	1,822	43¼	186	22	51½
Total	25,821	679	2,104	517¼	646

Daily average amount of coal consumed..... 70⅝ barrels.
Daily average amount of coal consumed for the month of January..... 113 barrels.

NOTE.—This is about the daily average of coal used under former administrations, before the boilers and machinery were repaired and put in order. These repairs were finished on the 5th of February, since which time the daily average of coal used is only 61⅛ barrels; making a clear saving to the city of about 52 barrels of coal per day.

(Here follows Statement K, marked p. 1484*k*.)

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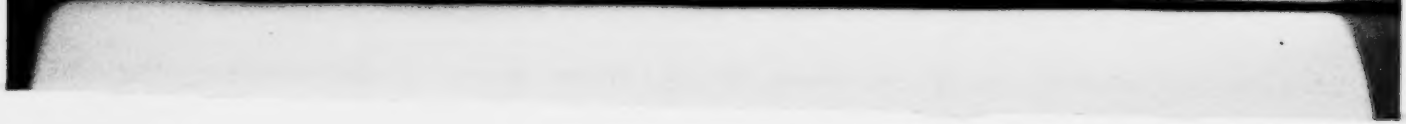

1484*l* STATEMENT L.

Showing what additions have been made to the street-service department during the year ending December 31st, 1877.

Main pipe laid.

Number of feet	3-inch	pipe	.....	2,071	feet.
" "	4	"	.....	1,652	"
" "	6	"	.....	68	"
" "	8	"	.....	4	"
" "	16	"	.....	36	"
Total			.....	3,831	feet.

Main stop-cocks.

Number of	3-inch	stop-cocks	.....	3
"	4 "	"	.....	1
"	6 "	"	.....	5

Fire-plugs.

Number of	high	fire-plugs	.....	59
"	underground	fire-plugs	.....	10
"	Holly "	"	.....	10
Total			.....	79

NOTE.—Owing to the embarrassed financial condition of the city but very little new work has been done, as it was thought best to use the very limited amount of money allowed this department in putting the old works in as good repair as possible.

SCHEDULE No. 1.

Showing the number of feet of main supply and distributing pipe now in use in this department.

Suction pipe.

600 feet	suction	pipe to new engine	.....	48 inch.
600 "	"	" " old "	.....	36 "

Distributing mains and supply pipe.

150 feet	distributing	mains	.....	36 inch.
4,830 "	"	"	.....	30 "
3,178 "	"	"	.....	24 "
14,632 "	"	"	.....	18 "
21,077 "	"	"	.....	16 "
3,936 "	"	"	.....	12 "
24,834 "	"	"	.....	10 "
68,409 "	"	"	.....	8 "

69,685	feet	distributing	mains	.....	6 inch.
3,452	"	"	"	.....	5 "
60,069	"	"	"	.....	4 "
39,938	"	"	"	.....	3 "
500	"	"	"	.....	2½ "

334,434
322,194 feet of iron pipe.
12,240 feet of cement pipe.

334,434 total number of feet, or 63 miles and 1,794 feet.

NOTE.—The location of all of the above as well as the various connections thereto, has been accurately ascertained, the description of which is too lengthy to embody in this paper.

1484*m* SCHEDULE No. 2.

Showing the number and sizes of all of the main stop-cocks, etc., now in use in this department.

1	check-valve	on	suction	pipe	new engine.....	48 inch.
1	"	"	"	"	old engine.....	36 "
2	stop-cocks	on	distributing	main.....		36 "
2	"	"	"	"	.....	30 "
5	"	"	"	"	.....	28 "
6	"	"	"	"	.....	24 "
4	"	"	"	"	.....	22 "
26	"	"	"	"	.....	18 "
32	"	"	"	"	.....	16 "
6	"	"	"	"	.....	12 "
32	"	"	"	"	.....	10 "
87	"	"	"	"	.....	8 "
66	"	"	"	"	.....	6 "
76	"	"	"	"	.....	4 "
91	"	"	"	"	.....	3 "

437 Total number of stop-cocks, etc., now in use in this department, the location, condition, etc., is of record in this office, having been made by actual survey, since I took charge of the works.

SCHEDULE No. 3.

Showing the number of fire-plugs now in use in the department.

Old-style, high, wood case.....	777
Under ground.....	149
Iron case, Philadelphia pattern.....	54
Holly pattern.....	138
Total.....	1,218

SCHEDULE No. 4.

Showing the number of private hydrants located in the department, the number destroyed, the number with pipe cut, and the number of fire hydrants; also about the number open and closed.

Number of hydrants in good order	11,461
" " destroyed	575
" " pipe cut	151
" " free	67
Total	12,254
Number of hydrants open	6,383
" " closed	5,871
Total	12,254

NOTE.—It is impossible to keep a correct record of the number of hydrants open and closed, as many persons consider the water works free plunder, and open their own hydrants, regardless of existing laws or regulations of the department.

1484*a*

SCHEDULE No. 5.

Showing the number and location of fire-wells, blow-off cocks, etc.

Fire-wells.

No. 1. Corner of St. Charles and Commercial alley.
2. " Gravier and Magazine streets.
3. " Magazine and Lafayette streets.
4. " Poydras and Front streets.
5. " Tchoupitoulas and Delord streets.
6. " Annunciation and St. Thomas streets.
7. " Hunter and Tchoupitoulas streets.
8. " Terpsichore and Peters streets.
9. " Robin and Peter streets.
10. " Tchoupitoulas and Religious streets.
11. " Annunciation and Robin streets.
12. " Annunciation and Richard streets.
13. " St. Mary and Magazine streets.
14. " Carondelet and Poydras streets.
15. " Common and Liberty streets.
16. " Canal and Camp streets.
17. " Canal and Rampart streets.
18. " Canal and Tchoupitoulas streets.
19. " Felicity road and Rampart street.
20. " Felicity road and Howard street.
21. " Julia and Camp streets.
22. " Custom-house and Bourbon streets.

23. Corner of Bienville and Decatur streets.
24. " Toulouse and Decatur streets.
25. " St. Bernard and St. Claude streets.
26. " St. Bernard and Claiborne streets.
27. " Dauphine and Clouet streets.
28. " Esplanade and Treme streets.
29. " Dauphine and Enghein streets.
30. " Hospital and Decatur streets.
31. " Elysian Fields and Moreau streets.
32. " Euterpe and Dryades streets.
33. " Bagatelle and Rampart streets.
34. Intersection of Frenchmen and Esplanade streets.
35. Corner of Common and Front streets.
36. " Gravier and Front streets.
37. " Girod and Front streets.
38. " Julia and Front streets.
39. " Canal and Claiborne streets.

Schedule No. 5—Continued.

40. Corner of Chartres and St. Louis streets.
41. " Josephine and Magazine streets.
42. " Jackson and Magazine streets.
43. " Washington and Magazine streets.
44. " St. Charles and First streets.
45. " Washington avenue and Market streets.
46. Mandeville, between Love and Goodchildren.
47. " Corner of Congress and Craps streets.
48. " Enghein and Goodchildren streets.

Blow-off cocks.

No. 1. Corner of Race and Peters streets.
2. " Carondelet and Polymnia streets.
3. " Rampart and Julia streets.
4. " Gasquet and Galvez streets.
5. " Tchoupitoulas and Girod streets.
6. " Keller market.
7. Corner of St. Phillipe and Peters streets.
8. Victory, near Marigny street.
9. Victory, near Enghien street.
10. Corner of Laharpe and Johnson streets.
11. " Press and Peters streets.
12. " Dauphine and Piety streets.
13. " Tonti and Esplanade streets.
14. " St. Peter and Marais streets.
15. " Esplanade and Broad streets.
16. " Clio and Camp streets.

NOTE.—All of the above can be used as *fire-wells* in case of necessity with the exception of three or four.

1484o

SCHEDULE No. 6.

Showing the amount of material, supplies, tools, etc., *on hand*, at and about the works.

24 feet 48-inch main pipe,
376 " 30 " " "
163 " 16 " " "
1 iron fire-well,
1 32-inch sleeve,
1 20 " "
2 12 " "
19 8 " "
2 7½ " "

40 feet 36-inch main pipe,
41 " 18 " " "
2 30-inch ½ curve "
1 38 " sleeve,
2 27 " "
2 18½ " "
4 10 " "
2 7½ " "

6 12 x 30 inch single branches,
3 8 x 18 " " "
5 8 x 16 " " "
3 8 x 12 " " "
6 8 x 8 " " "
9 8 x 6 " " "
1 6 x 18 " " "
1 4 x 16 " " "

14 4 x 6 inch single branches,
1 10 x 12 " double "
4 8 x 24 " " "
2 8 x 12 " " "
5 6 x 16 " " "
1 6 x 12 " " "
1 6 x 6 " " "

1 30-inch stop-cock,
2 18 " "
1 12 " "

3 8-inch stop-cocks,
5 6 " "

Supplies.

3,837 barrels of coal,
240 pounds tallow,
110 " packing yarn,
140 " gum packing,
150 " cotton waste,
19 gallons lard oil,
30 " headlight oil,
12 grate bars,
3 brooms,
6 hickory do.

1 case condensed lye,
1 lot old iron, about 2 tons,
6 empty oil barrels,
100 feet 3-inch hose,
100 " 1 " "
1 governor,
170 1¼ x 5 inch bolts,
2 brass S. C. nuts,
2 flat-boat lines.

Tools, etc.

3 pairs stocks,
12 set dies,
25 taps,
10 drills,
4 tap wrenches,

3 drill stocks,
61 wrenches, different sizes and styles,
1 drill clamp,
2 runners,

Schedule No. 6—Continued.

4 corking irons,
1 boring bar,

2 planes,
1 hand saw,

8 stop-cock keys,
1 iron vise,
2 set iron blocks and falls,
2 " wooden blocks and falls,
2 pair callipers,
1 " compasses,
1 tapeline,
10 cold-chisels,
1 carpenter's brace, 10 bits,
1 4-inch water meter,
5 3 " "
4 2 " "
2 hand hammers,
1 sledge "
1 brass "
2 wheel-barrows,
4 shovels,
1 spirit level,
6 fire irons and scrapers,
2 half-round files,
1 large platform coal scale,
8 1½-inch water meter-,
7 1 " "
16 ⅝ " "

At the shops, 36 Dryades street.

5 18-inch main S. C. screws,
9 16 " " "
5 12 " " "
3 10 " " "
8 8 " " "
9 6 " " "
9 4 " " "
6 3 " " "
36 iron screws for Ludlow valves,
9 brass screws for Ludlow values,
14 brass S. C. nuts 3 to 18 inches,
119 S. C. packing-box caps,
34 Ludlow valve "
3 6-inch Ludlow valves,
2 8 " "
24 packing-box bolts and nuts,
8 cast-iron S. C. frames,
8 " S. C. covers,
1 wood S. C. case,
19 " S. C. frames,
60 feet 3-inch pipe,
384 " 4 "
72 " 6 "
80 " 8 "
1 cast-iron fire-well cover,
1 cast-iron blow-off cover,
1 8 x 12 single branch,
1 8 x 8 single branch,
1 6 x 8 "
5 3 x 3 "
4 6 x 8 double "
3 Holly fire-plugs,
11 high "
2 Philadelphia fire-plugs,
4 underground "
6 F. P. screws, complete,
6 " nozzle caps,
15 " iron rods,
25 " copper rods,
20 " stir-ups and nuts,
108 " cast-iron valve flanges,
3 " brass hollow screws,
6 " nozzles,
3 " gum valves,
3 " cases complete,
2 " iron Phila. cases,
10 4-inch F. P. goosenecks,
8 3-inch " "
12 ground F. P. iron frames,
16 " " " " covers,

1484*p* Schedule No. 6—Continued.

1 16-inch sleeve,
12 6 "
5 3 "
5 yards rubber cloth,
14 lbs. hemp twine,
1 reel " packing,
125 bbls. white lead in oil,
1¼ " cement,
1 lot assorted lumber, 2000 ft.
20 lbs. ½-inch bolts and nuts,
175 " ⅝ " "
6 " ¾-inch iron washers,
12 " ½ " "
18 " ⅝ " "
12 " ¾ " "
58 " assorted gum packing,
1 side leather for valves,
7 yards cotton cloth.

Tools.

10 picks,
9 spades,
8 shovels,
2 grub axes,
6 crowbars,
2 paving rammers,
2 stone hammers,
5 wood pumps,
6 stone chisels and points,
1 axe,
1 hand saw,
3 augurs,
1 short-handle shovel,
4 hand spikes,
1 paving hammer,
2 pump plungers,
6 cutting tools,
19 caulking "
3 " hammers,
2 large smelting pots,
1 monkey-wrench,
5 pairs gas tongs,
5 iron wedges,
1 small hammer,
1 small reamer,
2 pairs pincers,
1 grindstone,
1 platform scale,
1 truck chain.

1 hatchets,
1 ground augur,
3 wood chisels,
1 " guage,
2 " rasps,
4 flat cold chisels,
3 diamond "
6 gasquet irons,
4 cabe chisels,
3 lead laddles,
8 assorted wrenches,
4 F. P. packing keys,
13 S. C. " "
1 iron bench vise,
1 pair callipers,
3 flat files,
1 $\frac{3}{4}$-inch drill,
2 1 " "
1 1$\frac{1}{2}$ " "
2 2 " "
2 drill sockets,
2 " t-usses,
3 " chains,
1 $\frac{3}{4}$-inch reamer,
3 1 " "
1 1$\frac{1}{2}$ " "
2 2 " "
2 drill wrenches,

Schedule No. 6—Continued.

Blacksmith shop.

12 bars 1$\frac{1}{2}$-inch round iron,
30 lbs. 2 " hoop "
$\frac{1}{2}$ bundle 1-inch " "
$\frac{1}{2}$ sheet boiler "
12 bars 1-inch round "
1 bar $\frac{7}{8}$ " " "
1 bar $\frac{3}{4}$ " " "
12 bars $\frac{5}{8}$ " " "
1 bdl. $\frac{1}{2}$ " " "
1 " $\frac{1}{4}$ " " "
$\frac{1}{2}$ " $\frac{3}{8}$ " " "
3 bars $\frac{7}{8}$ square "
1 bar 1 inch square "
9 bars $\frac{1}{2}$ " "

8 bars $\frac{3}{8}$ inch square iron,
1 bar $\frac{3}{4}$ " " "
2 bars 3 x $\frac{5}{8}$ "
1 bar 3$\frac{1}{2}$ x $\frac{1}{2}$ "
12 bars 1$\frac{1}{2}$ x $\frac{1}{4}$ "
15 " 1 x $\frac{1}{4}$ "
3 " $\frac{7}{8}$ x $\frac{1}{4}$ "
$\frac{1}{2}$ bar cast steel 1$\frac{1}{2}$ square,
1 " " " $\frac{7}{8}$ octagon,
1 set blacksmith's tools,
2 sets taps and dies,
2 blacksmith's vises,
1 iron form block, for making F. P. hoops.

Office furniture.

3 standing desks,	1 lot map and plans,
2 sitting desks,	2 plan books,
3 office tables,	5 inkstands,
5 " armchairs,	2 rulers,
8 " cane-seat chairs,	1 office shears,
1 " revolving chair,	1 hat rack,
1 copying press and table,	1 waste basket,
2 armoirs,	1 mercury water *guage*,
2 iron safes,	2 thermometers.
1 regular clock,	1 lot gas fixtures,
1 office stool,	1 lot office matting,
1 water-cooler,	3 foot mats,
2 " buckets,	1 foot rug,
8 spittoons,	2 counters.

In closing this report of the department of water works proper, I feel it my duty, and it affords me great pleasure to heartily recommend every officer and employee of the department. All of them have performed the various duties assigned with energy and ability, and have done everything within their power to make the administration of this department a perfect success.

I am, sir, with great respect, your most obedient servant,

W. S. SCOTT,
General Superintendent.

1484*q* Public buildings and charitable institutions under the charge of the department of water works & public buildings.

1484*r* Insane asylum.

Officers in charge :

Clerk, Henry D. Monier.
Superintendent, Henry Hamilton.
Matron, Mrs. B. Place.

1484*s* Honorable Jas. D. Edwards, administrator department of water works and public buildings.

DEAR SIR: In making my report of the management of the insane asylum, I have the honor herewith to submit the report of Col. Henry D. Monier, superintendent of that institution, simply adding thereto the cost of supporting and maintaining this asylum for the year ending December 31st, 1877.

STATEMENT A.

Showing the amount of salary paid the officers and employees, the cost of supplies, fuel, repairs, clothing, etc., etc., for the year ending December 31st, 1876.

	Salaries paid officers, employees, etc.	Cost of supplies, fuel, clothing, etc.	Total.	Net cost of groceries, provisions, etc., "food."
January	$540 00	$1,295 89	$1,835 89	$936 75
February	540 00	875 75	1,415 75	766 20
March	540 00	1,179 50	1,719 50	751 50
April	560 00	1,331 60	1,891 60	720 05
May	560 00	958 87	1,518 87	834 07
June	580 00	1,124 33	1,704 33	743 69
July	600 00	1,024 26	1,624 26	856 47
August	600 00	886 07	1,486 07	790 66
September	600 00	970 73	1,570 73	844 51
October	600 00	945 09	1,545 09	814 84
November	600 00	972 15	1,572 15	897 75
December	600 00	904 35	1,504 35	889 85
Total	$6,920 00	$12,468 59	$19,388 59	$9,846 34

Recapitulation.

Salaries paid for the year	$6,920 00
Cost of supplies, repairs, fuel, clothing, etc	12,468 50
Total cost of maintaining the insane asylum for the year ending December 31st, 1877	$19,388 59

Daily average number of patients, 148.

Total cost of taking care of and feeding each patient, per day, 35⅓ cents.

Cost of provisions, alone, $9,846.34.

Cost of food alone for each patient per day, 17⅘ cents.

Insane asylum.

Under the present management that portion of the entire building occupied by the city insane asylum, has been thoroughly painted, whitewashed and renovated. Over three hundred broken lights of glass have been replaced with new ones. The grounds

have all been filled in and graded, so as to make them perfectly dry in all seasons of the year.

The yards, front and rear, have been laid out and tastefully arranged as flower and vegetable gardens, and everything has been done to make the place, with all of its surroundings, as comfortable as possible.

For other detailed information of the management of this institution, I would respectfully refer you to the following:

Superintendent's Report.

CITY INSANE ASYLUM,
NEW ORLEANS, *January 1st*, 1878.

During the year ending December 31st, 1877, there have been admitted into the asylum, one hundred and sixty-five patients, who with the one hundred and forty-seven turned over to me by the former superintendent, would make a total of three hundred and twelve patients. Of that number one hundred and twenty-eight have been released and twenty-eight have died. The following statement shows the exact number of admissions, releases, and deaths:

STATEMENT B.

Showing the number of admissions, releases, and deaths in the city insane asylum for the year ending December 31st, 1877.

MONTHS.	ADMISSIONS.					RELEASES.					DEATHS.					AVERAGE NUMBER OF PATIENTS.
	Males.		Females.			Males.		Females.			Males.		Females.			
	White.	Colored.	White.	Colored.	TOTAL.	White.	Colored.	White.	Colored.	TOTAL.	White.	Colored.	White.	Colored.	TOTAL.	
Transferred to me by former superintendent, on December 18th, 1876	54	15	50	28	147											
December 18th to 31st, 1876	5	1	1	1	8	2	..	2	1	5	...	1	....	..	1	149
January, 1877	5	2	4	3	14	13	3	4	4	24	1	.	....	3	4	135
February, "	3	1	5	5	14	3	1	....	1	5	....	....	1	1	2	142
March, "	8	2	3	2	15	5	...	6	..	11	3	..	....	..	3	143
April, "	8	1	5	....	14	9	..	4	2	15	....	....	..	...	.....	142
May, "	7	1	3	...	11	3	...	1	...	4	...	..	1	....	1	148
June, "	5	...	2	1	8	7	...	1	..	8	...	....	..	....	.....	148
July, "	11	2	8	4	25	6	2	3	1	12	1	....	1	2	4	157
August, "	6	....	3	2	11	5	2	4	2	13	1	1	1	1	4	151
September, "	1	....	4	3	8	3		1	4	8	1	..	1	..	2	149
October, "	6	2	1	2	11	1	..	2	3	6	1	....	...	2	3	151
November, "	8	1	1	...	10	9	..	3	...	12	1	1	...	1	3	146
December, "	6	4	5	1	16	1	1	1	2	5	..	1	....	....	1	156
	79	17	45	24	312	67	9	32	20	128	9	4	5	10	28	Daily average 148

Of the number released but twenty were returned; these being cases of those having relatives or friends who supposing that home influence would hasten their cure, obtained *for them* their releases.

The deaths that have occurred were in the majority of cases consequent of the shattered health of the patients at the time of their admission into the asylum. For instance, two cases were sent from the Charity hospital in a dying condition; and, three or four others from the police stations, were in a similar state; those patients died a few days after being admitted.

The sanitary condition of the asylum is most marvelous; it is impossible to find another like institution that can compete with it on that score. This is due mainly to the excessive cleanliness of the patients, and of the entire building and surroundings; the wholesome and varied nourishment that is issued; and the kind and gentle treatment which each and every officer of the asylum rival in extending.

Since the 18th of December, 1876, the day upon which I assumed the superintendency of the asylum, it has undergone a most thorough and complete change. What was once a gloomy, dreary and prison-like edifice, is now, comparatively speaking, a home.

The grounds have been enlivened by spacious flower gardens, which are tended by the patients. The sight is most gratifying and affords to the poor demented some means of relieving the monotony of their secluded lives.

There is also a vegetable garden, although small, produces a certain quantity of vegetables, which added to the provisions furnished by the city, contribute largely to the improvement of the daily fare of the patients.

To the immense well in the rear yard has been attached a large force-pump with iron pipes leading into the upper story of the building known as the dormitories; this, with two hundred and fifty feet of new rubber hose, not only furnishes water for the gardens and general housework, but is a preventive against fire.

The yards are drained by well-constructed gutters; the heaviest rain leaves them perfectly dry.

The sitting-rooms, in both the male and female departments, are provided with benches to seat all the patients; and all the rooms are heated by good size stoves.

For the reception or amusement hall, which is tastefully decorated, a hand organ has been provided; here, twice or three times a week the patients assemble and amuse themselves by dancing and singing.

In the dormitory of the females, the old-fashioned raven duck bottom cots have been set aside and substantial bed frames with spring bottom are substituted. There are eighty-one beds with new moss mattresses, pillows, sheets and two pair- of blankets each.

1484*u* In the rooms occupied by the men, the beds are of iron, seventy-six in number, and provided with the same articles as those of the female department.

These sleeping-rooms are warm and comfortable; every morning they are cleanly swept and all the doors and windows are opened to *allow ventilation*. The floors of the entire building are scrubbed at least three times a week.

In the sewing-room the patients are at all times busily engaged in mending or manufacturing for the inmates. The following list shows the articles made exclusively by the patients under the superintendence of the matron:

Calico dresses	75	Cottonade (kears-y) pantl'ns	100
M-usselin- de laine dresses	6	Unbleached cotton shirts	143
Homespun dresses	6	Blue denims shirts	12
Raven duck dresses	18	Blue flannel shirts	21
Blue denims dresses	19	Drawers'	3
Chemises	84	Sheets	122
Canton-flannel night gowns	66	Towels	32
Aprons	11	Towels for rollers	6
Calico joseys	3	Mattrass sacks	129
Sunbonnets	6	Pillow sacks	104

In the workshops the following articles were made by the patients with the assistance of the officers of the asylum:

12 benches, eight feet in length,
1 large fancy stand for water cooler,
1 " " hand organ,
2 " " water buckets,
1 wooden railing for store, 6 x 6,
6 seats for the sinks,
1 step-ladder,
1 stand for grindstone,
1 pair tressels,
1 box, with slides, for allspice,
2 boxes, with slides, for tobacco,
1 barber's chair,
1 office chair,
81 bed frames, with spring bottom,
105 running feet railing fence, six feet high,
1 box step,
1 safe for kitchen,
2 wooden gutters, each fifty feet in length,
1 brick gutter, two hundred feet long,
150 moss mattresses,
130 " pillows,
Repairs of all the yard cells,
Filling up and grading of all the yards,

The production of the garden during the year 1877 was quite meagre; this is owing to the fact that it was late in the season when it was planted; however, the following crop was gathered:

7 barrels Irish potatoes,	9	bushels	okra
1,500 egg plants,	5	"	snap beans,
1,000 heads of lettuce,	8	"	cucumbers,
200 watermelons,	1	"	sweet peppers,
200 frizzled green cabbage,	½	"	strong "

The sewing-room, workshop, laundry and gardens, furnish healthy occupation to most all the patients. It is really astonishing to see with what pleasure they all try to perform the work allotted them.

Donations.

Through Mrs. M. A. Tarleton.

From Mr. Hoffman, of D. H. Holmes & Co.....1 bolt homespun.
S. L. Boyd.....4 pieces dress goods.
Mr. Porteous, of Levois & Jamison.....7 pieces domestics.
John H. O'Connor.....1 bolt flannel.
Fellman Bros.....1 bolt canton flannel.
Madam Piffet.....Buttons and thread.
Mrs. A. L. Abbott.....Sundry articles of clothing.
Mrs. M. A. Tarleton.....1 dozen head handkerchiefs.
" " .....½ dozen balls cotton for knitting.
Mrs. E. J. Souby.....1 hanging basket with artificial flowers.
Mrs. B. Place.....1 hanging basket.
Mrs. A. H. Isaacson.....1 bolt domestics.
Sundry articles of clothing.
Mr. Drury A. Harris, Sr.....3 pair pantaloons.
" " .....2 vests
" " .....1 coat.
Mrs. Dr. Chas. E. Kells.....1 pair pantaloons.
" " .....3 vests.
" " .....3 pair drawers.
" " .....1 coat.
" " .....1 flannel shirt
" " .....1 undershirt.
Crescent City Railroad Company.....20 loads manure.
Canal and Common Streets R. R. Company..10 " "
Mr. Joseph A. Walker.....15 turkeys
" " .....3 dozen bottles claret.
" " .....1 barrel Irish potatoes.
" " .....4 hams.

1484*c*

Gerome Borge.....1 large tin bucket of oysters
A. H. Isaacson.....4 boxes candies
" " .....1 cheese
F. Macias.....plants for vegetable garden
C. J. Berry & Co.....250 oranges
O. Brugier.....250 oranges
Hugo Redwitz.....500 oysters
F. Flores.....40 pounds smoking tobacco

Through Mrs. H. A. Hamilton.

From Levy Bros.....55 yards canton flannel
Eug. Dupre.....half dozen pair slippers
J. Rosenberg.....16 pair stockings
Mrs. B. I. Rice.....1 coat
" " .....1 vest

Through Insane Asylum Relief Association.

3 pairs flannel drawers,
3 " undershirts,
5 " petticoats,
3 " sacks,
2 old black coats,
2 woolen suits,
1 pair boots,
1 undershirt,
1 pair socks,
1 lot old drawers,
6 pairs blankets,
6 " "
51¾ yards unbleached cotton,
6 crochet needles,
12 spools thread,
625 feet lumber,
1 square,
1 jack plane,
1 hatchet,
1 smoothing stone,
1 4-prong rake,
1 old morning gown,
1 can 25 lb. green paint,
5 pair old pantaloons,
1 old coat,
3 old vests,
1 pair old shoes,
1 lot sundry wearing apparel, (old)
1 pair blankets,
1 lot magazines and periodicals,
2 mosquito bars,
1 box thimbles,
2 dozen spools thread,
12 pairs blankets,
5 old coats,
5 old vests,
2 pairs old pantaloons,
8 papers needles,
62¾ yards canton flannel,
1 bolt domestics, 37¼ yards,
6 bxs. buttons for pantaloons,
1 box buckles,
3 pairs blankets,
1 bolt ticking,
6 pairs blankets,
5 comforters.

I would suggest that the sinks be removed from where they are now, and constructed as far from the main building as possible, and a wooden shed leading thereto would protect the patients in rainy weather.

The tubs that are now used in the sleeping-rooms should be replaced by "earthen or potter's-ware pots." They are a perfect nuisance, and very injurious to the health of the patients. This alteration could be made at very little cost.

I would also suggest the propriety of securing the large hall in the marine hospital, which is next to the workshops of the asylum, where could be established the infirmary, and the department for the violent cases, now kept in the yard cells. The expenses for building the same would be very small; it would, in fact, cost the city but for the material; the work could be done by the patients.

In conclusion, I desire to thank my officers for their efficient services in the asylum, and to you, in behalf of the poor unfortunate

beings under my charge, I beg leave to say, that you have, at all times, exerted yourself to promote their happiness.

Very respectfully, your obedient servant,

HENRY D. MONIER,
Superintendent.

Home of Aged and Infirm.

In this institution there has been a daily average of 63 (sixty-three) inmates, for the year ending December, 31, 1877.

The inmates are all old and infirm, and not able to take care of, or support themselves; *most* of them without any home, and no friends or relatives to give them assistance. The institution is one of the most deserving charities of the city government, and is under the sole charge of *Mrs. O. Lyons*, a lady most eminently qualified to fill the position she occupies. While she is firm in her treatment of the people under her charge, that firmness is tempered by even-handed justice to all; and while she is particular that all the wants of the unfortunate inmates are supplied, she has been economical in her management of the institution, as the following statement will show:

The cost of supporting this institution for the past year has been as follows:

Salary of matron	$510 00
Cost of repairs, bedding, clothing, fuel, supplies, groceries, etc	3,847 43
Total	$4,357 43

Or, an average of about 19 cents per day, for each inmate in the institution.

The building has been all thoroughly painted, whitewashed and renovated during the past year, and is in a very clean and
1484*w* comfortable condition; and, although the building itself is not properly constructed for an institution of this kind, I cannot recommend any change at present, as there are many other places, under the charge of the city, that require it more than this.

There *has* been furnished to the institution new mattresses to supply the place of those worn out, and a full supply of warm clothing, shoes, blankets, etc., for all of the inmates, who are comfortably provided for in every respect.

Smallpox hospital.

This institution has been a source of greater annoyance than all others in this department; the outrageously ex*h*orbitant charges of Dr. Hays of three dollars per day, no matter how many patients there may be in the hospital, together with the fact that all of his bills, when first rendered, are largely in excess of the actual number of days that smallpox patients have been confined to the institution, making it necessary for the visiting physician to keep

constant watch and count of all the patients sent there by the city; he having almost invariably been compelled to reduce Dr. Hays' monthly bills several hundred dollars, before approving them, makes this institution an expensive annoyance, which should be immediately abolished.

The charge of three dollars per day for a small number of smallpox patients, sent to his hospital, may be a legitimate charge, but after the number has exceeded five or ten, the additional expense in taking care of and providing for others, is but trifling in comparison, and the charges should be made proportionately.

By reference to the annexed statement, it will be readily seen that the money paid to Dr. Hays for the care alone of smallpox patients, sent to his hospital during the past year, is more than enough to have paid for the building and furnishing of a hospital, large enough for all of the requirements of the city.

There has been paid to Dr. Hays, for the care of smallpox patients, during the year ending December 31st, 1877, as follows:

January	$699 00	July	$1,272 00
February	2,109 00	August	429 00
March	3,219 00	September	276 00
April	2,010 00	October	264 00
May	1,776 00	November	126 00
June	1,101 00	December	438 00
Making a total in one year, of			$13,719 00

To which must be added $1,450, the salary paid to Dr. De Roaldes, visiting physician, making a grand total, for the care of smallpox patients for one year, of $15,169. *"Comment is unnecessary."*

I would respectfully recommend that the city commence immediately the building of a smallpox hospital, and that it be completed as soon as possible, and placed under the charge of Dr. De Roaldes, who is eminently qualified to take charge of the same, he having been appointed, and has filled the position of visiting physician at Dr. Hays' hospital for the past year.

I am fully convinced that if this suggestion be adopted, there could be enough money saved to pay for the ground necessary to build upon, the building, and furnishing of a much better place than Dr. Hays' establishment is, inside of two years.

Or, if this plan be deemed impracticable, owing to want of a sufficient amount of funds on hand to the credit of this department, there should be a contract made with Dr. Hays, or some one else, grading the compensation paid for the care of smallpox patients—say three dollars each for the first ten, one dollar and fifty cents for all above this number up to twenty, and seventy-five cents per day each for any number above twenty. This would be ample remuneration for taking care of the indigent smallpox patients of the city, and taking much better care of them than ever has been done under the present management.

1484*x* Public buildings.

1484*y* Public buildings.

It is almost an impossibility to give a full detailed report of the department of public buildings, for want of time; besides, it would be too voluminous to be embodied in this report. All of the public buildings in this department were found to be in the most dilapidated condition possible to be imagined, many of them going rapidly to decay and ruin for want of proper repairs. A few dollars judiciously spent at the proper time would have saved hundreds of dollars necessary to be spent now to put many of them in anything like "good repair."

City hall.

The roof of the city hall building was found to have settled nineteen inches in the centre, causing the foot of the rafters to crowd the north side wall over seven inches out of a perpendicular line, and it was simply a matter of time when the whole roof would have fallen in, and most likely causing a fearful loss of life.

This was caused by the breaking of the main trusseling in the centre, and the consequent parting of nearly all of the hog chains supporting the roof. The officers of the surveyor's department, as well as several architects of the city, examined the roof and decided that it would be impossible to raise it back to its original position without its falling in, and consequently the roof would have to be taken off, or stayed where it was "temporarily."

I made a thorough survey of the roof, and decided that, with your permission, I would attempt to raise it and put it in complete repair. The work was commenced and finished inside of one week—no one hurt—with a total cost to the city of less than FIVE HUNDRED DOLLARS, and the roof today is stronger and better than it was when the building was first put up; and the pressure being relieved, the side wall came back of itself nearly into its original position. The settling of the roof and consequent spreading of the side walls, displaced the marble cornice in the front and on the north side, breaking and cracking many of the blocks—and also many of the marble blocks, in the walls themselves. These have all been taken out and replaced with new ones, and the walls and cornices thoroughly cleaned and repaired. On the inside, the private offices of all the administrators have been repaired, painted and refitted, with the exception of your own. The council chamber has been thoroughly repaired, painted, frescoed, etc., the furniture all upholstered and made new and the room refitted with new carpets, matting window shades, etc. The mayor's office and private parlors, the rooms of the school board and superintendent of public schools, the office of the city surveyor and city attorney, all of the halls, on the inside, and the windows, iron window shutters, and all the openings on the outside, required to be thoroughly overhauled, repainted and refitted. The city library has been cleaned, painted and kalsomined, but it still requires new oil cloth

on the floor, and about two dozen new chairs. There *has* been fitted up in the second story two fine rooms for the Firemen's Charitable Association and the chief of the fire department and his assistants; and there *is* two rooms on the opposite side of the same hall partially finished, which I would recommend be fitted up and assigned to the fire-alarm telegraph department.

Court buildings.

The court buildings, with the single exception of the superior criminal court, were all in very bad and filthy condition, totally unfit for occupation; the roof leaking, the floors rotted out, and the stairs in many places falling down and unsafe. They have all been repaired and put in good order; roof repaired, new floors and stairs put in, the rooms all painted, whitewashed and kalsomined, and the furniture all repaired or replaced with new; the court-room floors covered with matting, and all of the judges' private offices supplied with new carpets and new furniture wherever it was required. These buildings are now all comfortably fitted up, and in good order.

Parish prison, boys' house of refuge, etc.

The parish prison, boys' house of refuge, and all other institutions of this kind, have been repaired, whitewashed and painted, and new floors and stairs put in when it was required, roofs repaired, etc., and all are in general good condition.

Police stations, lock-ups, etc.

The old and unsightly structure at the head of Canal street, known as the harbor police station, which was a disgrace to the city for so long a time, has been taken down, and a new and handsome building erected in its place.

The first, third and fifth station-houses have all been thoroughly repaired, are in good order; all of the others have been partially repaired and put in such condition as to make them safe, and prevent them from going to further ruin and decay. They all yet require some repairs of minor importance to put them in perfect order.

Fire-engine houses, etc.

All of the buildings in this department were found to be in a very dilapidated condition; some of the apparatus was laid up, because the floors and other parts of the houses were in such a condition that it was not safe to take the horses and apparatus in and out of the buildings.

1484 The repairs made in this department and in its present condition, *is* about as follows:

Volunteer No. 1.

Nothing has been done to this house, and it requires a general and thorough repairing.

Mississippi No. 2.

Is private property, belonging to the company, and is in general good condition; it, however, requires some repairs, which, I think, the city would do, in consideration of the rent of the premises.

Vigilant No. 3.

During the severe storm last fall, the brick wall around this house was blown down, and the house otherwise injured; the wall has been rebuilt, and other repairs made; there are a few repairs yet required here.

Columbia No. 5.

This house is entirely too small, and in such a condition as to make it impossible to repair it and make it safe. There have been plans and specifications prepared for the purpose of having a new house built for this company, which will be commenced soon.

Mechanics No. 6.

This house has been repaired during the past year; but the house being situated on St. Joseph street, the New Orleans and Chicago railroad track passing in front of it, the heavy locomotives and freight trains shake the building to such an extent as to keep the present roof constantly leaking. It will require some repairs.

Eagle No. 7.

This house has been thoroughly repaired, with the exception of painting and kalsomining; that is all it will require.

Phœnix No. 8.

This house, also, has been thoroughly repaired, with the exception of painting, whitewashing, etc.

Creole No. 9.

This house is in very good repair, kept so by the members of the company. It may require some little repairs during the summer.

Louisiana No. 10.

This house is in very bad condition, and requires general repairing.

Irad Ferry No. 12.

Is in pretty good order, but requires some repairs immediately to keep it from getting in any worse condition.

Perseverance No. 13.

This house has been partially repaired during the past year; it requires some few additional repairs.

Philadelphia No. 14

has been also partially repaired; it yet requires some additional repairs very much.

Jackson No. 18

was repaired during the past year; it also requires a few additional repairs.

Washington No. 20

is in very bad condition, and requires a general and thorough repairing.

Orleans No. 21.

This house has been thoroughly repaired and is in complete order and condition.

Jefferson No. 22

has also been repaired and put in perfect order.

Chalmette No. 23.

This house is in very bad condition, and requires to be thoroughly and completely repaired.

Crescent No. 24

is also in a very bad and even dangerous condition, and should be immediately repaired.

Louisiana Hose

has just been completed, with the exception of painting, kalsomining, etc.

Milneburg No. 1.

This house is also in a very dilapidated condition, and requires a general and thorough repairing.

Algiers engine-houses are all out of order, and require a general and thorough repairing.

Hook and ladder companys.

Lafayette No. 1.

This house has been repaired during the past year; it still requires a few repairs before it is in good order.

1484*aa* American No. 2

requires some repairs, which should be done as soon as possible.

Hope No. 3

is now being thoroughly repaired, and will be finished this month with the exception of painting.

Pelican No. 4

has been partially repaired during the past year; it still requires a new floor, painting, etc.

Fire-alarm-bell towers.

The fire-alarm-bell tower recommended to be built at the Magazine market should be constructed immediately, as this is in a very thickly populated portion of the city, and no fire-alarm bell within about twenty squares, it is required very much.

The fire-alarm-bell tower in the rear of the Carrollton market, has become so decayed and rotten that it was found necessary to remove the bell last summer to keep it from falling down—there should be a new one put up in its place.

Also, the fire-alarm-bell tower in the rear of Vigilant No. 3's engine-house is in a rotten and dangerous condition. The bell and costly striking apparatus in this tower should be immediately removed, and the tower repaired or a new one erected in its place.

In the fire-alarm-bell tower at the Keller market, there has been recently placed a new fire-alarm bell, and all that is wanting there now is to have the striking apparatus placed in position.

Public markets.

During the past year the following public markets have been repaired:

Jefferson market,
Ninth Street market,
Le Breton market.

The Port, Dryades Street, and one or two others have *have* had slight repairs done to them, and nearly all of the public markets, excepting the first three named, are in very bad condition, and are rapidly going to ruin and decay, for the want of proper repairs.

There *is* nearly twenty of these public markets; a few dollars judiciously appropriated at the proper time, would have saved thousands of dollars, and the longer they are allowed to remain unrepaired, the more it will cost when the necessary repairs are finally to be made.

It is very poor economy in the city to delay these much-needed repairs; they will eventually have to be done, when it will cost much more than it would to do them at once.

It will cost now at least ten thousand dollars to put the public markets in good repair; one year hence it will probably cost double this amount.

Public schools.

The public school buildings of this city are, with the exception of a very few of them, sadly in need of repairs; many of them in a dangerous and unhealthy condition, jeopardizing the lives of the teachers and scholars, and a disgrace to an enlightened community and a commercial city with the standing of the city of New Orleans.

I am aware that owing to the past stringent financial condition of the city it has been almost totally impossible for her to do these repairs: but it would be good economy for the city to borrow money, if necessary, and do this work at once, as it would save a very large percentage of the amount which it will cost hereafter.

The following statement will show the total cost of the repairs, refurnishing, refitting, etc., etc., done upon all of the public buildings in this department for the year ending December 31st, 1877:

Work done by contract.

Harbor police station, Thos. O'Neil, contractor	$1,100 00
Fire-engine house No. 22, L. Brusel, contractor	650 00
Second recorder's court, John Page, contractor	1,190 00
Supreme court, John Page, contractor	1,900 00
Boys' house of refuge, R. J. Connolly, contractor	825 00
Total amount of contract work	$5,675 00

All of the other repairs, etc., done upon the public buildings of the city during the past year *has* been done by the regular employees of this department, under my own personal supervision—the total cost of the same, including fuel, supplies, labor, material, new furniture, carpets, mattings, painting, kalsomining, etc., etc., only amounts to the sum of $15,348 04.

Making the total of the entire expenses of this department as follows:

General and sundry repairs, etc., done by the regular employees of the department	$15,348 04
Work done by contract	5,675 00
Total	$21,023 04

1484*bb* The following statement shows the full amount of expenditures for the entire department of water works and public buildings for the year ending December 31st, 1877:

Water works proper, as per statement F	$57,803 98
Insane asylum	19,388 59
Home of Aged and Infirm	4,357 43
Smallpox hospital	15,169 00
Repairs, etc., to public buildings	21,023 04
Salary of keeper of public buildings and assistants	2,850 00
Salary of clerks, sundry expenses, etc., administrator's office	3,484 69
Cleaning public sinks	2,875 00
Total	$126,951 73

I did intend to have given you a full and detailed statement of all of the different jobs of work done by this department, and the cost of each, but as this report is already long, and all of these details are on record in the office, I have simply given you the foregoing statement, showing the total amount of the expenses of this branch of the department.

And in conclusion, allow me to tender to you my most sincere and grateful acknowledgment for all the invariable kindness and confidence which you have been pleased to give me during the past

year, and rest assured that I shall, at all times, most cheerfully do anything within my power to advance your interests, or add to the high reputation which you have so justly earned in the administration of your department.

I am, sir, most respectfully, your obedient servant,

S. W. SCOTT,
General Superintendent.

1485 *Taxes Paid to City of N. O. by N. O. W. W. Co.*

1885.				
Oct. 19.	P'd cash (total)			$20619.37
1886.				
Oct. 14.	" " "			22093.59
1887.				
Sept. 3.	" " "			20113.60
1888.				
Sept. 4.	" " "			21405.78
1889.				
Dec. 18.	" " "			20170.41
1890.				
Sept. 27.	" " "			29545.29
1891.				
June 18.	" "	on mach'y & franchise	17,069	
Sept. 4.	" "	real estate	3,131	
				20200.00
1892.				
June 16.	" "	M. & F.	17,069	
Aug. 5.		R. E.	3,131	
				20200.00
1893.				
June 10.	" "	M. & F.	19,204	
July 29.	" "	R. E.	2,800	
				22004.00
1894.				
June 14.	" "	M. & F.	29,904	
July 30.	" "	R. E.	2,800	
				32704.00
1895.				
June 13.	" "	M. & F.	29,900	
July 30.	" "	R. E.	2,800	
				32700.00
1896.				
June 20.	" "	M. & F.	29,900	
Aug. 17.	" "	R. E.	2,800	
				32700.00
1897.				
June 14.	" "	M. & F.	29,900	
Aug. 6.	" "	R. E.	2,800	
				32700.00
				$327160.14

I certify that the foregoing is a true abstract taken from the books and records of the New Orleans Water Works Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec't'y.*

Ten-cent internal-revenue stamp.

1486 *Am'ts P'd to City of N. O.*

1879.

May 15.—P'd to J. Wharton, U. S. marshal, by order of Judge E. C. Billings, U. S. circuit court, being the am't of dividends on 4344 shares, seized and sold as per previous judgment of said court.

1885.			4344 shs. at $2.00		8688.00
Ap'l 14.	P'd Board of Liquid'n, judgment of Judge Monroe,			div'd No. 1..	2358.00
		vs. N. O. W. W. Co.			
"	"	do.	do.	div'd No. 2..	2204.45
"	"	do.	do.	do. No. 3..	1854.00
"	"	do.	do.	do. No. 4..	1390.50
"	"	do.	do.	do. No. 5..	2317.50
"	"	do.	do.	do. No. 6..	2781.00
Ap'l 16.	"	Bd. of Liquid'n, am't of div'd		No. 7 at $3.50 on 3927 shs..	13744.50
Oct. 8.	"	do.	"	No. 8 at $2	7854.00
1886.					
Ap'l 13.	"	do.	"	No. 9 " 2	7854.00
Oct. 11.	"	do.	"	No. 10 " 2	7854.00
1887.					
Ap'l 13.	"	do.	"	No. 11 " 2	7854.00
Oct. 15.	"	do.	"	No. 12 " 2	7854.00
1888.					
Ap'l 13.	"	do.	"	No. 13 " 2	7854 00
Oct. 10.	"	do.	"	No. 14 " 2	7854.00
1889.					
Ap'l 18.	"	do.	"	No. 15 " 2	7854.00
Oct 16.	"	do.	"	No. 16 " 2	7854.00
1890.					
Ap'l 10.	"	do.	"	No. 17 " 2	7854.00
Oct. 10.	"	do.	"	No. 18 " 2	7854 00
1891.					
Ap'l 6.	"	do.	"	No. 19 " 2	7854.00
Oct. 12.	"	do.	"	No. 20 " 2	7854.00
1892.					
Ap'l 16.	"	do.	"	No. 21 " 2	7854.00
Oct. 10.	"	do.	"	No. 22 " 2	7854.00
1893.					
Ap'l 11.	"	do.	"	No. 23 " 2.50	9817.50
Oct. 10.	"	do.	"	No. 24 " 2.50	9817.50
1894.					
Ap'l 10.	"	do.	"	No. 25 " 2.50	9817.50
Oct. 8.	"	do.	"	No. 26 " 2.50	9817.50
1895.					
Ap'l 8.	"	do.	"	No. 27 " 2.50	9817.50
Oct. 8.	"	do.	"	No. 28 " 2.50	9817.50
1896.					
Ap'l 7.	"	do.	"	No. 29 " 2.50	9817.50
Oct. 12.	"	do.	"	No. 30 " 2.50	9817.50
1897.					
Ap'l 12.	"	do.	"	No. 31 " 2.50	9817.50
Oct. 11.	"	do.	"	No. 32 " 2.50	9817.50
1898.					
Ap'l 11.	"	do.	"	No. 33 " 2.25	8835.75
					270158.70

I certify that the foregoing is a true abstract taken from the books, and records of the New Orleans Waterworks Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec't'y.*

Ten-cent internal-revenue stamp.

1487 Endorsed: Am't of city taxes and dividends paid to city. No. 58345. Civil district court, parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer, A No. 12. No. 58345. Civil district court, parish of Orleans. Filed Jan. 15, 1900. A. H. Flemming, d'y clerk.

1488 *Def't- Offer* 13.

Tariff of charges, rules, regulations, and city ordinances governing the introduction, supply, and consumption of water furnished by the New Orleans Water Works Company, February 23, 1898.

No. 58345. Civil district court parish of Orleans. Filed January 15, 1900. (Sg.) A. H. Flemming, d'y clerk.

1488*a* *Tariff of Charges, Rules, Regulations, and City Ordinances Governing the Introduction, Supply, and Consumption of Water Furnished by the New Orleans Water Works Company, February* 23, 1898.

1488*b* New Orleans Water Works Company.

Tariff of Water Rates.

NEW ORLEANS, *February* 23, 1898.

By virtue of the power granted and conferred in the charter of this company, and particularly by section 15, of act No. 33, of the extra session of the legislature in 1877, the New Orleans Water Works Company do hereby, acting through its board of directors, duly convened, make, ordain and establish and fix the rates and charges for water furnished by the company from its pipes and mains in the city of New Orleans, as follows, and subject to the restrictions and conditions as stated in connection therewith, and also subject to change at the pleasure of the directory.

Water will be furnished on the written application and agreement of the owner or consumer to conform to the rules of the company as herein described, and to comply with all city ordinances, and upon the return or report of a plumber, duly licensed by the water works company, certifying the character of the work and nature of the supply in detail, under the following tariff of rates and charges, payable in advance:

Private dwellings, per annum.

For one yard hydrant, five-eighth faucet, for family, not exceeding six persons.

For 1 or 2 rooms	$6 00
For 3 or 4 rooms	8 00
For 5 or 6 rooms	11 00
For 7 or 8 rooms	12 00
For 9 or 10 rooms	13 00
For 11 or 12 rooms	15 00
For 13 or 14 rooms	16 00
For 15 or 16 rooms	17 00
For 17 or 18 rooms	18 00
For 19 or 20 rooms	22 00
For each additional such yard hydrant	2 50
Each room above 20	1 00

Boarding-houses and boarding schools and "furnished rooms" to be charged above rates, and one dollar ($1.00) in addition for each room.

Houses occupied by more than one family, to be charged for each family over and above one-half the dwelling rate.

Day schools, dwelling rates, and thirty-five (35) cents additional for each pupil.

Hotels, by meter or contract.

Stores, shops, etc., per annum from $8.00 to	$20 00
Offices and sleeping-rooms, $5.00 to	10 00

Saloons, etc., per annum.

Drinking saloons	By contract.
Eating-houses, restaurants	By contract.
Billiard saloons, per table (in connection with other service)	$4 00
Bowling saloons, per alley (in connection with other service)	4 00
Gambling saloons	By contract.

Stables, per annum.

When used in connection with yard hydrant, or its equivalent in rate.

For livery, sale and street railroad, per mule or horse	$2 50
Livery for each wheeled vehicle	2 00
Private stable, for horse or mule	2 25
Private stables, for each cow or head of cattle	1 25
Private stable, for each carriage, buggy or vehicle	1 75
Stock yards, per head of stock, $1.25	Or meter.

Vehicles may in no case be washed by hose jet, but by hand.

Hose attachments, per annum.

For sprinkling streets and washing sidewalks, steps, windows, and fronts of lots, not over 25 feet front, and half the width of street, by hand	$7 50
For each additional front foot	20
For corner lots, both fronts charged.	
1488c For sprinkling private yards and gardens, and washing walks in the same, per 100 square yards	75
For street-sprinkling cart, per 300 feet (single street)	1 50
For sprinkling public or pleasure gardens, per 100 square yards	1 25
All garden and lawn sprinkling will be done by hand.	
Stationary devices will be charged for as fountains.	
For washing by the momentum of jet alone, for any purpose, add per square inch area of nozzle	100 00
For protection against fire, when rented for no other purpose	50 00
For each inside protection, opening to be used only in case of fire	25 00

Baths, per annum.

When a bath-tub is used without a yard-hydrant supply additionally, dwelling-room rates will be charged for same; otherwise as follows:

For private dwellings, not over 6 rooms, each	$3 75
For each additional bath	2 50
For private dwellings over 6 rooms, each	4 50
For each additional bath	3 75
For hotels, boarding-houses, hospitals and public bath-houses, each	7 00
For each additional bath	5 00

Water-closets (none but self-closing allowed), per annum.

For offices, dwellings, stores	$6 00
For each additional water-closet	4 00
For hotels, boarding-houses, hospitals, prisons, saloons, manufactories and all other public places, each	8 00
For each additional water-closet	5 00

Urinals, per annum, when used in connection with yard hydrant or its equivalent in rate.

For private dwellings, stores and offices, each bowl or meter	$3 00
For hotels, boarding-houses, hospitals, prisons, saloons, manufactories and all other public places, each bowl	8 00
Or meter.	
Perforated urinal pipes will be specially assessed.	

Stationary wash-basins (none but self-closing allowed), per annum, when used in connection with yard hydrant or its equivalent in rate.

For private dwellings, stores and offices, each bowl	$2 50
For each additional bowl	2 00
For hotels, boarding-houses, hospitals, prisons, saloons, barber shops, manufactories and all other public places, each bowl	4 00
For each additional bowl	2 50

Kitchen and laundries, per annum.

When a sink or wash-tub is used without a yard-hydrant supply, dwelling-room rates will be charged for same; otherwise rates per annum as follows:

For slop sink, with draw	$4 00
For each additional	2 50
For wash-tubs, with draw, each	4 50
For laundries, washerwomen	Meter or contract.

Manufacturers, artisans, etc., per annum, when used in connection with yard hydrant or its equivalent in rate.

For bakeries, per each barrel of flour used	Two cents.
For breweries	By meter or contract.
For barber shops, per chair	$4 00
For candle and soap factories	By meter or contract.
For dyers and scourers	By meter or contract.
For distillers	By meter or contract.
For foundries	By meter or contract.
For flouring mills	By meter or contract.
For fountains	By meter or contract.
For forges, blacksmith, each	$4 00
For forges, steam hammer	8 00
For glue factories	By meter or contract.
For gas works	By meter or contract.
For hands, in factories, each (fifty cents)	50
For hospitals	By meter or contract.
For market stalls and stands (self-closing)	$12 00
For mineral-water factories	By meter or contract.
For printing offices	By meter or contract.
For planing mills	By meter or contract.
For rectifying establishments	By meter or contract.
1488*d* For railroads, locomotives	By meter or contract.
For steam-engines, per horse-power, below 10, each	$10 00
For steam-engines, per horse-power, above 10, each	7 50
For slaughter-houses	By meter or contract.
For sugar refineries	By meter or contract.
For steam boilers, for heating purposes	By meter or contract.
For tanneries	By meter or contract.

For tobacco factories	By meter or contract.
For vinegar manufactories	By meter or contract.
For cotton presses	By meter or contract.
For hydraulic elevators	By meter or contract.

Building purposes.

For brick-work, 10,000 or less	$2 50
For brick-work, over 10,000, per thousand	15
For plastering, per square yard	01

Quantity assessment by meter measurement.

Meters will be of such make and size as may be approved by the water works company, and will be furnished and maintained in good order by the consumer.

For daily average of 100 to 500 gallons, per 1000 gallons	35 cents.
For daily average of 500 to 2000 gallons, per 1000 gallons	30 cents.
For daily average of 2000 to 4000 gallons, per 1000 gallons	25 cents.
For daily average of 4000 to 5000 gallons, per 1000 gallons	20 cents.
For daily average of 5000 to 10000 gallons, per 1000 gallons	15 cents.
Consumption above 10000 gallons daily	Special rates.

Meter bills will be payable monthly.

The furnishing of water through meters will be at the option of the water works company.

Rules Governing Consumers.

1. No subscriber will be allowed to supply water to any person, or to use it for any purpose not specified in his application, and *for an infraction of this rule the supply will be cut off and the amount of payment forfeited.*

2. No addition to or alteration whatever, in or about any conduit pipe or water cock shall be made or caused to be made by persons taking the water, without notice thereof being previously given to and permission had in writing, from the office of the company.

3. Subscribers must keep their service pipes, stop-cocks and apparatus, up to and including the tap in the street main, in good repair.

4. No hydrant will be permitted on the sidewalk, in an open area or in any other locality accessible to persons other than the subscriber; and neither hydrants nor other apparatus must be allowed to run when not in actual use.

5. Officers and employés of the company shall have access at all reasonable hours to all parts of any premises where attachments to the works have been made, to inspect the condition and use of the plumbing.

6. The company reserves the right to shut off the supply to any

premises where water is found running to waste and to forfeit the amount of payment.

7. Where two or more parties or premises are supplied from the same service pipe, the failure on the part of any of said parties to comply with the rules of the company shall warrant the company in withholding a supply of water through said service pipe, without any liability whatever.

8. No alterations, repairs or extensions shall be made in any water pipe or fixture except by a licensed plumber.

9. The water works company does not guarantee a steady pressure or an uninterrupted supply of water for any purpose, but a supply as steady and free from interruption as is practicable with current repairs, additions, or accident incident to a public water supply.

10. The company reserves the right to shut off the water in its mains at any time for the purpose of making repairs or extensions, or for other purposes incidental to a public water supply.

11. Persons using steam boilers and taking a supply of water directly from the service pipe, depending upon the hydraulic and hydrostatic pressure in the pipe system of the water works for supplying such boilers or boiler feed-pumps, which are con-
1488c nected directly with the service pipe, with no intervening vessel into which to receive the water and from which to pump into the boilers, will do so at their own risk, as the water works company will not be responsible for any accidents or damages to which such devices are frequently subject.

The use of hose.

12. Permits for the use of hose for street-sprinkling do not convey the privilege of interior or domestic supply, or for any other purpose.

13. Street-sprinkling must be done only upon the premises paid for, and half the width of the street immediately in front thereof.

14. Adjusting hose upon temporary portable or fixed supports, or devices of any kind, so as to sprinkle automatically, or for the purpose of cooling the atmosphere, etc., will be regarded as fountains and be charged for accordingly.

15. *Lawn-sprinklers*, come under above rule and if used will, in all cases, be assessed as fountains.

16. The use of hose or jet to wash vehicles or animals is forbidden.

17. A permit for street-sprinkling does not convey the privilege of flushing gutters, or of making the street muddy.

18. Fountains must not be in use more than six hours in the day without a special permit for that purpose and an additional payment beyond the established rates.

19. To allow water to run from hydrants, bath-tubs or other interior faucets to the street for flushing gutters or sprinkling the streets is expressly forbidden.

20. Consumers using meters or paying for water by measurement will not be permitted to supply any premises other than those occupied by themselves.

21. Not more than one house shall be supplied from one tap except by special permission, and whenever two or more parties are supplied from one pipe connecting with the distributing main, the failure on the part of any one of the said parties to comply with the rules and restrictions of this company shall authorize the company to withhold a supply of water from such mains without any liability.

To this rule the owner of premises to be so supplied shall give his assent in writing.

22. The penalty for violation of any of the rules and requirements of the company will be the prompt stoppage of the supply of water; nor will it be restored except upon payment of a fee for shutting it off and putting it on, and a satisfactory understanding with the party that no future cause of complaint shall arise.

23. In all cases where the water has been turned off for non-payment of water rent or for violation of any of the rules of the company, it shall not be turned on again until all dues are paid. If it be found that the water has been again turned on without authority of the company, the ferrule will be drawn.

Rules Governing Plumbers.

1. No person, except the employés of the water works company, will be permitted, under any circumstances, to tap the distributing pipes or insert ferrules therein.

2. No person, except a plumber duly licensed by this company, will be allowed to do any manner of work whatever, in connection with the service pipes or fixtures connected with the water supply under penalty of provisions of city ordinance 8107, A. S.

2. Every plumber applying for a license must be of the age of not less than twenty-one years. He must furnish a satisfactory certificate, signed by at least one licensed plumber of the city of New Orleans, that the applicant is known to him as a person regularly educated in the business, of good reputation, and in every way qualified to receive a license.

Each such applicant for license shall also execute and deposit in the office of the water works company, a bond with sureties satisfactory to the company, in the sum of one thousand dollars, conditioned that he will indemnify and save harmless the water works company of and from all accidents and damages consequent therefrom, for or by reason of any opening in any street, lane or avenue made by him or by those in his employment for the purpose of putting down service pipe or pipes for the introduction of water, or for any other purpose or object whatsoever, and that he will also replace and restore the street pavement over such opening to
1488*f* as good state and condition as he found it, and keep and maintain the same in good order to the satisfaction of the water work- company for the period of twelve months next thereafter.

On receiving his license he shall have recorded in the office of the company his actual place of business, the name under which the

business is transacted, and shall immediately notify the company of any change of either thereafter.

4. Each plumber must have a fixed place of business. A plumber will not be deemed to have a place of business unless a sign, bearing his name and business, be publicly exposed at the premises occupied by him for that purpose.

Failing this, or removal from the city, will constitute resignation of license.

5. Licensed plumbers will not be permitted to allow any unlicensed plumber to do any manner of work whatever about service pipes, fixtures or appurtenances in their name or under cover of their license.

6. No avenue, lane, street or other public place shall be opened for the purpose of laying down any service pipe or doing any work whatever in or about any water pipe or fixtures, without written permission of the company for that purpose. No permit will be granted unless application for same be made in writing and signed by a licensed plumber.

The application must state the size of the tap needed, the size of the proposed service pipe, and an accurate description of the location of the building or premises to be supplied.

Service pipes.

7. These must be of lead (when not of cast iron) and of weight or strength hereinafter stated. Every lead service pipe must be laid sufficiently waving to allow of not less than one to one and one-half feet extra length, and in such manner as to prevent rupture by settlement. The service pipe and stop-cock must be placed not less than two feet below the surface.

8. All service pipes shall be one-eighth ($\frac{1}{8}$) of an inch larger in diameter than the ferrule through which they are supplied, and all stop-cocks in the line of service pipe or branches under ground, must be stops with circular water ways, of the same diameter of water way as the pipe in which they are placed and equal in strength to that of the pipes and ferrules.

9. Lead service pipes shall be not less than the following weights or of the weight known as "strong" or "medium."

Lead pipe $\frac{1}{2}$-inch bore, $1\frac{1}{2}$ pounds per lineal foot.
Lead pipe $\frac{5}{8}$-inch bore, 2 pounds per lineal foot.
Lead pipe $\frac{3}{4}$-inch bore $2\frac{3}{4}$ pounds per lineal foot.
Lead pipe 1-inch bore, $3\frac{1}{4}$ pounds per lineal foot.

And cast-iron pipes shall be of the character and weight known as "standard weight," and tested to a hydraulic pressure of 300 pounds to the square inch before being laid.

10. All joints made on service pipes must be plumbers' wipe joints.

11. No two *ferrules* shall be entered in any of the distributing mains within a less distance than four feet from each other.

No change of ferrules shall be made to any premises until the ferrule previously used shall have been drawn and the opening stopped with a brass plug.

12. All *house boilers* shall be constructed with one or more air holes near the top of the inlet pipe, and be sufficiently strong to bear the pressure of the atmosphere under vacuum.

13. The pattern and construction of all water-closets, urinals, wash-basins, hydrants, etc., together with all self-closing devices, must be subject to the approval of the water works company before supply of water thereto shall be furnished.

Stop-cocks.

14. These shall be of a make or pattern approved by the company.

Each and every service pipe must be supplied with at least one such, and located, in case of direct supply from the main, just within the curb line. It must be covered with a box of a pattern approved by the company.

15. Where two or more premises are supplied from the same service pipe, stop-cocks must be placed controlling each, independent of the other, and so placed as to be easy of access for observation, and for opening and closing.

16. Plumbers will make written report of any and all
1188*g* work done in connection with water supply within twenty-four hours after the completion of such works. In all cases they will furnish the company with diagrams accurately showing location of premises and the distance in feet and inches from the nearest corner building line to the stop-cock. Water will not be turned on to any premises until the report of the plumber is filed in the office of the company.

17. In no case will plumbers be authorized to turn on the water except to test their work. In case of repairs or other work the water must be left on or off as it was found by them.

Fire and yard hydrants.

18. No private hydrant will be permitted on the sidewalk, in an alley, in a vacant lot, or elsewhere accessible to the public.

19. No connections may be taken from the service pipes of fire-hydrants. All fire-hydrants are to be used exclusively for street cleaning and the extinguishment of fires; and any person found guilty of using the water for any other purpose will be punished under the statute for such cases made and provided.

20. Not more than one house shall be supplied from one tap, except by special permission, and whenever two or more parties are supplied from one pipe connecting with the distributing main, the failure on the part of any one of the said parties to comply with the rules and restrictions of this company shall authorize the company to withhold a supply of water from such mains without any liability whatever. To this rule the owner of premises to be so supplied shall give his assent in writing.

Taps for building purposes.

21. When a permit for a tap for building or other temporary purpose is used, the service must be carried to the inside of the curb-

stone in the same manner as for a hose-box, and when the object of the permit is accomplished, the service must be taken up, tap drawn, and the main plugged satisfactorily, unless the service is to be extended to supply the building, in which case application must be made in the usual manner for extension.

22. Any plumber who shall be guilty of a violation of any rule adopted by the water works company will be immediately deprived of his license.

A forfeiture of the license of any plumber shall operate as a suspension of the license held by any copartner in the same business, or any person in his employ; nor will a license be granted under any circumstances, to any person interested in the business of, or occupying the same premises with, such plumber, after such forfeiture.

Official.

City ordinances.

MAYORALTY OF NEW ORLEANS,
CITY HALL, *October* 24, 1882.

(No. 8107, administration series.)

Whereas, the works, property and obligations of the New Orleans Water Works Company are, in an important sense of public character and interest; and, whereas, it is desirable and proper to extend to said company, its property and its interests, the protection which said property and interests enjoyed by special ordinances while they were the property of the city of New Orleans; therefore be it ordained, etc.

ARTICLE 1. It shall be the duty of the commissaries of the several markets, as soon as the markets shall have been washed, to have the fire-plugs closed and kept closed until wanted the next day for the same purpose, except in case of fire; and for any violation of this ordinance the commissary or market lessee or lessees shall be fined not to exceed twenty-five dollars or imprisonment not more than thirty days.

ART. 2. It shall be the duty of the night-watch to arrest any and all persons, except the officers of the New Orleans Water Works Company and city government, found opening the fire-plugs at night, except in case of fire. Such offenders shall, upon conviction, be fined not to exceed twenty-five dollars, or in default of payment of said penalty, shall be imprisoned not more than thirty days.

ART. 3. It shall be unlawful for any person unauthorized by the New Orleans Water Works Company, except the city government and fire department, to take water from any public well, 1488*h* cistern, reservoir or fire-plug, or to open the same, so as to expose the water to waste; or to turn any public or private stop-cock, or in any way or manner injure the buildings, reservoirs or other property belonging to the New Orleans Water Works Company; and the person so offending shall be subject to a fine not to exceed twenty-five dollars, or in default of payment of the fine, shall be imprisoned for not more than thirty days.

ART. 4. No person shall make any attachments to the street mains of the New Orleans Water Works Company, or to any private attachment connected therewith, or any alteration in such private attachments, without special authority from the said company. Any one so offending shall be subject to a fine not to exceed twenty-five dollars; or if the fine be not paid, imprisonment for not more than thirty days.

ART. 5. Whosoever shall himself, or by any of his family, or by any of his servants, or agents, use or waste the water from any part of the water works, or open any stop-cock or valve, or shall let on or shut off the water into or from any pipe without authority from the New Orleans Water Works Company, or of the city government or fire department shall be subject to a fine not to exceed twenty-five dollars, or if the fine be not paid, imprisonment for not more than thirty days.

ART. 6. Whoever having authority to use the water supplied by the New Orleans Water Works Company for a specified purpose, shall use the water or suffer it to be used from the hydrant in his authorized use, for any other purpose than that specified, or shall suffer any other person to do so, or shall suffer such hydrant to remain exposed to public use, shall be fined not to exceed twenty-five dollars, or failing to pay the fine, shall be imprisoned not more than thirty days for each offense.

ART. 7. Parties paving streets, alleys and sidewalks, are expressly forbidden to destroy or cover up any valve or stop-box attached to the pipes or connections of the New Orleans Water Works Company, under a penalty of not more than twenty-five dollars for each offense; or, in default of payment, they shall be imprisoned for not more than thirty days.

ART. 8. It shall be unlawful for any person to own or keep a key or spanner to any stop-cock, hydrant or fire-plug of the New Or-Orleans Water Works Company, unless under the authority of said company or of city government or fire department, and any one so offending shall be fined not more than twenty-five dollars; or, in default of payment, shall be imprisoned for not more than thirty days.

ART. 9. Whoever shall bathe in any rese-voir of the New Orleans Water Works Company, or shall commit any nuisance upon the grounds of such reservoirs, or shall put any offensive matter into such reservoir, or shall in any manner contaminate the water therein, shall be fined not to exceed twenty-five dollars, and in default of payment shall be imprisoned not more than thirty days.

ART. 10. It is made the duty of the police to report all violations of this ordinance to the chief of police, who shall give prompt information of such reports to the New Orleans Water Works Company.

Adopted by the council of the city of New Orleans, October 24, 1882.

JOS. A. SHAKSPEARE, *Mayor.*

A true copy:

M. McNAMARA, *Secretary.*

1489 OFFICE 104 CANAL STREET,
NEW ORLEANS, *April 2nd*, 1878.

First meeting of board of New Orleans Water Works Co. for organization under act No. 33 of the legislature of Louisiana approved March 31st, 1877, and amendments thereto approved.

Under section 3 of the charter there were designated by his honor the mayor, the following gentlemen to represent the city, viz., Messrs. Archibald Mitchell, —— Bayle, W. W. Washburne and E. A. Palfrey.

There were elected by the subscribers Messrs. Paul Fourchy, Pablo Sala and Edward Toby.

The board met pursuant to the call of his honor the mayor on the evening of 2nd April, 1878, at No. 104 Canal street. Present: Messrs. Toby, Fourchy, Sala, Washburn, Mitchell, Bayle and Palfrey.

Mr. Mitchell was called to the chair, and Mr. Palfrey was appointed secretary *pro tem.*

Pursuant to section 4 of the charter, the election of a president, being the first business before the meeting, the chairman declared nominations for that office to be in order.

On motion of Mr. Fourchy, duly seconded, Mr. Edward Toby was elected president by acclamation. Mr. Toby took the chair.

On motion, duly seconded, the chair was requested to appoint a committee to draft by-laws under the charter for the government of the company. The chair appointed on this committee Messrs. Fourchy and Mitchell. On motion, properly seconded, the meeting then adjourned, subject to the call of the president.

The following document is made part of these minutes for reference, and is a true and correct copy of the report of the com-
1490 missioners of election for three directors by the stockholders, which said report will be attached to the act of transfer of the water works by the city to the company.

OFFICE OF MERCHANTS' MUTUAL INSURANCE CO.,
NEW ORLEANS, *March 20th*, 1878.

Hon. Ed. Pilsbury, mayor:

The undersigned appointed by you, and selected by the stockholders of the New Orleans Water Works Co., to superintend the election of three directors, by the stockholders, respectfully beg to report that the said election was held this day and resulted as follows:

Paul Fourchy rec'd 3976 three thousand nine hundred and seventy-six votes.

Edward Toby rec'd 3829 three thousand eight hundred and twenty-nine votes.

Pablo Sala rec'd 3600 thirty-six hundred votes.

W. A. Bell " 397 three hundred and ninety-seven votes.

A. Brousseau rec'd 147 one hundred and forty-seven votes. Respectfully submitted and certified correct.

(Signed) F. E. CHANNT,
A. MARQUEZ,
WM. PEMBERTON,
Commissioners.
EDW'D TOBY, *President.*

(Signed) E. A. PALFREY, *Act'g Sec't'y.*

I hereby certify that this is a correct copy of the minutes of meeting, April 2nd, 1878, as inscribed on the minute book of the N. O. Water Works Co.

(Signed) R. L. MACMURDO, *Sec'l'y.*

New Orleans, Dec. 4, 1899.

[SEAL.]

1491 Endorsed: No. 58,345. Civil district court, parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def'ts Offer, A. No. 14. Proceedings of 1st meeting of shareholders of def't Co. No. 58345, Civil district court, parish of Orleans. Filed Jan. 15, 1900. A. H. Fleming, d'y clerk.

1492 1st-mortgage bonds issued.

1879.				
Ap'l	2.	By cash		$25000.
	21.	"	"	5000.
May	9.	"	"	5000.
	12.	"	"	5000.
Oct.	18.	"	"	5000.
Nov.	6.	"	"	15000.
	25.	"	"	5000.
Dec.	11.	"	"	20000.
	30.	"	"	2000.
	31.	"	"	500.
1880.				
Jan'y	7.	"	"	20000.
	20.	"	"	17500.
	29.	"	"	17500.
Feb'y	18.	"	"	20000.
	27.	"	"	20000.
Ap'l	15.	"	"	17500.
May	13.	"	"	10000.
	17.	"	"	10000.
	22.	"	"	1500.
	26.	"	"	2500.
June	5.	"	"	3000.
	10.	"	"	3000.
	15.	"	"	10000.
	28.	"	"	5000.
July	1.	"	"	7000.
	3.	"	"	10000.
	22.	"	"	10000.
1881.				
Jan'y	19.	"	"	10000.
	31.	"	"	11000.
Feb'y	16.	"	"	7000.
Ap'l	6.	"	"	20000.
May	2.	"	"	10000.
June	30.	"	"	8000.
July	1.	"	"	2000.
	30.	"	"	500.
Oct.	22.	"	"	7500.
Nov.	1.	"	"	2000.
1885.				
Ap'l	8.	"	"	45000.
		Total		395000.

2nd-mortgage bonds issued.

1892.				
Dec.	22.	By cash		75000.
1893.				
Jan'y	16.	"	"	50000.
1895.				
Ap'l	4.	"	"	125000.
		Total		250000

Dividends declared.

Ap'l	21, '79		40000.
"	23, '80		50000.
"	21, '81		40000.
"	21, '82		30000.
"	11, '83		50000.
"	9, '84		60000.
"	9, '85		70000.
Oct.	19, '85		40000.
Ap'l	9, '86		40000.
Oct.	6, '86		40000.
Ap'l	1, '87		40000.
Oct.	5, '87		40000.
Ap'l	10, '88		40000.
Oct.	10, '88		40000.
Ap'l	3, '89		40000.
Oct.	2, '89		40000.
Ap'l	1, '90		40000.
Oct.	6, '90		40000.
Ap'l	1, '91		40000.
Oct.	7, '91		40000.
Ap'l	6, '92		40000.
Oct.	5, '92		40000.
Ap'l	5, '93		50000.
Oct.	4, '93		50000.
Ap'l	4, '94		50000.
Oct.	3, '94		50000.
Ap'l	3, '95		50000.
Oct.	5, '95		50000.
Ap'l	1, '96		50000.
Oct.	7, '96		50000.
Ap'l	7, '97		50000.
Oct.	6, '97		50000.
Ap'l	7, '98		45000.
			1485000.

I certify that the foregoing is a true abstract taken from the books and records of the New Orleans Water Works Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec'ty.*

Ten-cent internal-revenue stamp.

1493 Endorsed: No. 58345. Civil district court. Parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer A No. 15. Bond and dividend statement. No. 58345. Civil district court, parish of Orleans. Filed Jan. 15, 1900. A. H. Fleming, d'y clerk.

1494 *Deft's Offer* 16.

R. M. Walmsley, president. T. Wolfe, Jr., secretary.

Board of liquidation city debt.

Room 10, city hall, New Orleans.

Statement of Bonded Debt of New Orleans.

Constitutional bonds, 4 % per annum	$9,008,500.00
Premium bonds, 5 % per annum	4,937,940.00
Gold bonds, 7 % per annum	117,000.00
Street-improvement bonds, 7 30/100 % per annum	10,000.00
Carrollton bonds, 8 % per annum	50.00
Floating debt 4 % bonds and certificates, issued to date, (ordinance constitutional convention provides for a total issue of $250,00-.00)	232,678.45
	$14,306,168.45
Accrued interest on premium bonds to January 1st, 1900, twenty-four years, five months and fifteen days, at 5 % annual interest	6,038,689.12
	$20,344,857.57

(Signed) R. M. WALMSLEY,
President of Board of Liquidation of City Debt of New Orleans.

(Signed) T. WOLFE, JR., *Secretary.*

New Orleans, December 29th, 1899.

(Endorsed:) No. 58,345. Civil district court. Parish of Orleans, Filed Jan. 15, 1900. (Signed) C. H. Flemming, d'y clerk.

1495 *Table Prepared by George*

Index number.	City.	Miles of water main.	Cost of system.		Number of taps.		Population.	
			Total.	Per mile.	Total.	Per mile.	Total.	Per tap.
1	New York	750	$75,000,000	$100,000	120,000	160	1,515,301	12.6
2	Philadelphia	1,174	28,000,000	24,000	221,000	188	1,046,964	4.7
3	Chicago	1,615	24,933,860	14,800	234,000	145	1,099,850	4.9
4	Brooklyn	513	16,196,000	31,550	103,300	201	838,000	8.1
5	Boston	775	26,250,000	33,880	95,000	124	448,000	4.7
6	St. Louis	462	13,345,000	29,000	53,000	114	451,770	8.5
7	Baltimore	523	12,905,000	24,700	74,728	143	443,400	5.9
8	San Francisco	380	9,975,000	26,300	39,000	103	299,000	7.7
9	Cincinnati	330	9,087,000	27,540	46,000	140	305,000	6.6
10	New Orleans, now	121	2,645,000	21,870	4,800	40	275,000	57.3
11	Cleveland	426	7,323,000	17,180	44,666	104	270,000	6.0
12	Pittsburg, city	272	14,582,000	16,850	26,694	98	238,617	6.3
	Pittsburg, county	124	2,000,000	16,130	10,890	87		
13	Buffalo	450	8,175,485	18,120	48,000	107	255,000	5.3
14	Washington	362	9,700,000	29,200	45,200	136	203,000	4.5
15	Newark	210	6,800,000	32,380	20,646	142	182,000	6.1
16	Louisville	195	5,393,000	27,600	18,223	93	161,129	8.8
17	Jersey City	175	4,950,000	28,000	20,400	117	163,000	7.9
18	Detroit	501	6,121,000	12,200	48,918	98	205,000	4.2
19	Milwaukee	292	4,633,000	15,900	31,492	108	204,000	6.5
20	Providence	294	6,119,430	20,800	18,625	64	144,000	7.7
21	Galveston	38	1,360,000	36,000	1,500	34	29,100	22.0
22	Atlanta	80	828,000	10,350	6,266	78	65,500	10.5
23	New Orleans, assumed	500	7,210,000	14,420	60,000	120	300,000	5.0
24	Average for U. S. in 1887			17,800				7.1
25	Average for South Carolina in 1887			15,950				50.9
26	Average for North Carolina in 1887			11,450				22.4
27	Des Moines	82	1,500,000	19,400	5,000	61	50,100	10.0

(Endorsed:) Def't Offer A. No. 23. Earl's table of city water supply and sta
of Orleans. Filed January 16th, 1900. (Sg.) A. H. Flemming, deputy clerk.

G. Earl.—(See Page 64.)

Average daily supply.			Annual revenue.			Operating expenses.						Remarks.
Total gallons.	Gallons per mile.	Gallons per tap.	Total.	Per tap.	Per each 365,000,000 gallons consumed.	Total.	Per each 365,000,000 gallons consumed.	Water rates—minimum.	Water rates—maximum.	Coal—cost per ton.		
189,000,000	252,000	1,575	$3,973,052	$23 10	$21,000	$643,000	$3,400	13	13	$4 25	A	Gravity supply except for small portion.
215,000,000	183,000	970	2,616,139	12 00	12,200	1,113,470	5,250	40	40	2 20		
251,840,000	156,000	1,032	3,164,504	19 60	12,600	1,435,516	5,720	...	...	2 46		
80,124,000	156,000	776	1,522,381	14 65	19,000	761,717	9,522	10	10	4 25	A	
60,258,000	77,750	634	2,880,244	30 00	48,000	582,286	9,709	19	...	4 27		
55,000,000	115,900	1,026	1,204,254	23 90	23,000	423,259	7,700	30	10	1 39		
57,000,000	109,000	762	774,657	10 40	13,600	159,628	2,800	.....	.....	4 50	A	Gravity supply except for small portion.
										2 50		
20,000,000	53,000	514	1,686,071	43 20	84,300	376,826	18,840	39	...	8 00		
				39 70								
47,143,000	142,900	1,020	780,423	16 86	18,600	527,446	11,220	29	8	1 45		
11,000,000	92,400	2,340	246,414	51 30	22,400	61,137	5,558	35	15	3 45		
				32 50	13,200							
47,154,000	410,700	1,064	583,156	13 10	12,400	170,000	3,600	5	5	1 35		
47,000,000	172,800	1,760	541,000	20 23	11,500	250,000	5,329	20	...	1 30		
14,000,000	113,000	1,300	208,000	18 40	14,300	39,000	2,800	.....	.....	58		
100,000,000	222,200	2,083	642,023	13 40	6,420	231,340	2,329	6	3	1 50		
44,000,000	132,000	973	258,324	6 40	8,700	88,287	2,986	3	3	2 95		90 p. c. supply by gravity.
22,200,000	105,710	745	549,000	18 50	24,960	28,421	1,300	15	...	.....		Gravity supply.
16,800,000	80,100	926	346,488	19 60	20,400	70,717	4,210	15	...	2 40		
19,300,000	110,300	943	514,328	25 22	26,660	Deficit—no figures given.		.....	.....	.....		Gravity.
40,000,000	79,860	815	429,000	8 77	10,725	107,000	2,675	7	...	.....		Fuel, crude oil.
25,300,000	80,640	802	442,000	14 04	17,400	119,000	4,700	.....	.....	2 04		
8,985,000	30,300	470	491,625	26 80	55,240	72,091	8,100	20	...	4 44		
1,500,000	40,000	1,150	50,000	39 00	33,300	25,000	16,660	33	...	4 15		
4,541,000	56,760	728	73,563	11 77	16,400	54,117	11,920	13	...	1 70		
30,000,000	60,000	500	1,100,000	18 33	36,666	243,000	8,100	10	...	3 45		
.....	.....	.....	.....	18 80	.....	.....	.....	.....	.....	.....		
.....	.....	.....	.....	89 00	.....	.....	.....	.....	.....	.....		
.....	.....	.....	.....	76 00	.....	.....	.....	.....	.....	.....		
3,000,000	36,000	600	.....	.....	.....	20,000	6,666	30	10	1 00		

tistics as to New Orleans and other cities. No. 58345. Civil district court, parish

1496 *Def't's Offer A No. 24. A to G.*

Extracts from proceedings of b'd of directors New Orleans water works.

24 A.

NEW ORLEANS, *Dec. 5th*, 1899.

Extracts from minutes of special meeting of the board of directors of the N. O. Water Works Co. held April 23rd, 1879.

Present: Edward Toby president, Honorable J. W. Patton, I. H. Isaeson, E. R. Chevally, Paul Fourchy, W. W. Washburn and P. Sala.

* * * * * * *

"From president's annual report embracing dates of April 10th 1878 and April 9th 1879—inscribed in the minutes * * *

"The collector of rates by the system of assessment is compulsory, as there is no meter yet invented that will register with the present sedimentary character of the Mississippi river. I have endeavored to make the assessment as equitable as possable, but have encountered the greatest difficulty only with those who would prefere having a free supply. Many evils have arisen under the system owing to changes in the administration: And the tariff of rates now established is both just and equitable and should be maintained and not departed from, except under the most urgent circumstances" * * *

* * * * * * *

(Signed) ALEX. BORMEVAL, *Sec'ry.*

I certify the above to be a true and correct copy from the minutes book of the N. O. Water Works Co.

[SEAL.] R. L. MACMURDO, *Sec'ry.*

Canceled 10-cent documentary —.

1497 24 B.

NEW ORLEANS, *Dec. 5th*, 1899.

Extracts from the minutes of regular monthly meeting of the board of directors of the N. O. Water Works Co. held November 2nd, 1881.

Present: E. Toby president, Paul Fourchy, Js. Houston and Bertram Beer.

* * * * * * *

"The president stated that Maginnis Sons had been assessed $400 for several years, which they had always refused to pay & the com

pany had accepted $300. On motion of Mr. Houston the president was intended to enforce the collection of $400 or to shut off the water."

* * * * * * *

(Signed) ALEX. BORMEVAL, *Secr'y.*

I certify that the above is a true and correct copy from the minutes book of the N. O. Water Works Co.

[SEAL.] R. L. MACMURDO, *Secr'y.*

Cancelled one 10-cent documentary stamp.

24 C.

NEW ORLEANS, *Dec. 5th*, 1899.

Extract of minutes of special meeting of the board of directors of the N. O. Water Works Co. held December 10th, 1881.

President Ed. Toby pres't, Jas. D. Houston, B. Beer, Paul Fourchy B. T. Walshe & J. V. Guilliotte. Quorum present.

* * * * * * *

"On motion, duly seconded, it was resolved to close the water supply of the St. Charles hotel, if the bill for the same was not promptly paid."

* * * * * * *

(Signed) ALEX. BORMEVAL, *Secr'y.*

I certify that the above is a true and correct copy from the minutes book of the N. O. Water Works Co.

[SEAL.] R. L. MACMURDO, *Secr'y.*

Canceled 10-cent documentary stamp.

1498 24 D.

NEW ORLEANS, *Dec. 5th*, 1899.

Extract from the minutes of the regular monthly meeting of the board of directors of the N. O. Water Works Co. held April 5th, 1882.

Present: Edward Toby president, Paul Fourchy, Js. Houston, Bertrand Beer & B. T. Walshe.

* * * * * * *

"The president submitted to the board a petition signed by several parties asking to subscribe for water for six months instead of one year, as required by resolution of the board under date November 2nd 1881. On motion of Mr. B. T. Walshe duly seconded the president was authorized to open hydrant for 3 & 6 months, on condition that the rates shall be increased as follows"—

The price for months will hereafter be ¾ of the yearly rates & for 3 ms. one-half of the yearly rates.

* * * * * * *

(Signed) ALEX. BORMEVAL, *Secr'y.*

I certify the above to be a true and correct copy from the minutes book of the N. O. Water Works Co.

[SEAL*d.*] R. L. MACMURDO, *Secr'y.*

Cancelled 10-cent documentary —.

24 E.

Extract from minutes of me-ting for organization of new board, July 3rd, 1883.

Present: Messrs. A. Baldwin, Js. Houston, Js. Edwards, H'y Abraham & Hon. W. J. Behan.

* * * * * * *

A discussion of the policy of modification of, or deviation from the tariff of rates, was concluded by refer-ing the matter to the finance committee for decision.

* * * * * * *

(Signed) L. H. GARDNER, *Sec'y.*

1499 24 F.

NEW ORLEANS, *July 4th*, 1883.

Meeting of finance committee.

At a meeting of this committee held this day at 12 m. all the members of same were present.

After a discussion of the existing tariff of rates it was decided to continue the same in force, but the secretary was instructed to exercise his own discretion and judgment to the extent of excepting $200 per annum less than the tariff on yearly family bill, and proportionately lower price on short-time bills, all under special circumstance.

(Signed) L. H. GARDNER, *Sec'y.*

24 G.

NEW ORLEANS, *Dec. 5th*, 1899.

Extract of the minutes of the regular monthly me-ting of the board of directors of the N. O. Water Works Co. held December 4th, 1889.

Present: R. E. Craig, A. Baldwin, Henry Abraham, & G. W. Nott.

* * * * * * *

"Mr. Nott moved duly seconded & carried that the president be authorized to bring suit against Maginnis Cotton Mills for $7500— for water supply for currant year."

* * * * * * *

(Signed) R. L. McMURDO, *Sec't'y.*

I certify that the above is a true and correct copy from the minutes book of the N. O. Water Works Co.

[SEAL.] R. L. MACMURDO, *Sec't'y.*

Cancelled 10-cent documentary —.

Endorced: No. 58345. Civil district court, parish of Orleans, Filed Jan. 11 1900 (Signed) R. H. Fleming, d'y clerk.
(Stamped :) Civil district court 30c. paid Paul C. Guerin, clerk.

1500 New Orleans Water Works Co., new No. 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, sec'y and treas.

NEW ORLEANS, *December 22nd*, '99.

Judge J. R. Beckwith, att'y N. O. Water Works Co.

DEAR JUDGE: As requested, we made thorough examination of all the books of the N. O. Water Works Company and find that there were no meters in service up to the year 1883.

At special meeting, July 6th, 1882, present A. Baldwin, J. D. Houston, Hon. B. T. Walshe, W. S. Devan, and E. A. Ducros. Resignation of Alex. Bonneval, sec't'y, received and accepted. L. H. Gardner elected to succeed Bonneval. Books show assessment rates unchanged from that time which Supt. Gardner verifies.

Memo.—St. Charles hotel:

1878, '79.	Yearly rate		$1,500
	Payments made	M'ch 1, '79	700
		Ap'l 8, '79	400
		Nov. 13, '79	400
1879, '80.		Jan. 6, '80	400
		" 27, '80	500
		M'ch 10, '80	300
		Ap'l 6, '80	300
1881, '82.		Dec. 14, '81	1,500
1882, '83.		Nov. 15, '82	500
		Jan. 10, '83	500
		M'ch 10. '83	500
1883, '84.		Oct. 1, '83	500
	Note		1,000
1884, '85.		Feb., '85	500
	Note		1,000

1885, '86.		M'ch 26, '86	1,000
	Note		500
1886, '87.	Note		1,500.00
1887, '88.		Feb. 25, '88	1,500.00
1888, '89.		Ap'l 27, '89	1,500.00
1889, '90.		Oct. 31, '89	500
	Note		1,000
1890, '91.		Feb. 19, '91	1,500

St. James hotel, 38–44 Magazine:

1878, 79.		Feb. 21, '79	100
		M'ch 24, '79	25
		Ap'l 9, '79	50
		Ap'l 25, '79	50
1879, '80.		Jan. 16, '80	100
		Feb. 16, '80	100
1881, '82.		Oct. 20, '81	175
1882, '83.			501

1501 New Orleans Water Works Co., new No. 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, s'c'y and treas.

NEW ORLEANS, *Dec. 22nd*, 1899.

Judge J. R. B. No. 2.

Vonderbank hotel (St. James hotel):

1883, '84	150	
1884, '85	160	
1885, '86	160	
1886, '87	160	
1887, '88	160	Cancelled.
	133.35	in lieu.
1888, '89	160	
1889, '90	210	
1890, '91	250	

J. Schmidt (hotel):

1891, '92	250	
1892. Metered.		

Respectfully,

C. H. HECK.
E. B. HANDS.

1502 New Orleans Water Works Co., new No. 608 Common street. R. B. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, sec'y and treas.

NEW ORLEANS, —— —, 189–.

Memo.

A. A. Maginnis, oil & soap fact'y, 154 Tchoupitoulas, 85–89 Commerce.

1878, '79.	Feb. 15, '79	300	
1879, '80.	M'ch 5, '80	300	
1880, '81.			
1881, '82.	Dec. 17, '81	300	
1882, '83.		500	Cancelled.
1883, '84.	1,000 & 50 Cancelled.		Am't bills compromised as per letter Feb. 3, '87 at 500 each less 250 6 mos. time not working, making total $1750. Paid Feb. 5, '87.
1884, '85.	Do. do. do.		
1885, '86.			
1886, '87.			
1887, '88.	Oct. 13, '87	633.35	
1888, '89.	Oct. 4, '88	600	
1889, '90.	Oct. 3, '89	600	
1890, '91.	Water closed not needed.		

1503 Endorsed: No. 58345. Civil district court, parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer A No. 27. Statement of the water account of St. Charles hotel by Heck & Hands, taken from records of company, and other extracts from defendant's books of water supplyed other places in city. No. 58345. Civil district court. Parish of Orleans. Filed Jan. 11, 1900. A. H. Fleming, d'y clerk.

1504 MAYORALTY OF NEW ORLEANS,
CITY HALL, *March* 13, 1896.

No. 12026, council series.

An ordinance adopting the Digest of City Ordinances, etc., prepared under the provisions of ordinance No. 10758, C. S.

Be it ordained, That the digest of ordinances prepared under the provisions of ordinance No. 10,758, C. S. being a compilation of all ordinances adopted by the council of the city of New Orleans to the 1st day of January 1896, be and the same are hereby approved and adopted and shall be of binding force and obligations, subject, however, to such amendments as may have been adopted since the 1st of January, 1896, or that may hereafter be adopted by the council of the city of New Orleans.

Adopted by the council of the city of New Orleans, March 10, 1896.

DAN. A. ROSE,
Clerk of Council.

Approved March 13th, 1896.

JOHN FITZPATRICK, *Mayor.*

A true copy:
CLARK STEEN,
Secretary to the Mayor.

1505 *Extract from Flynn's Digest of Ordinances of the City, Editim of* 1896, *Page* 1171 *et seq.*

City attorney to amend answer in suit of Ed. Conery, Jr., *et als. vs.* The N. O. Water Works Co. *et al.*, ord. No. 3287, C. S., Oct. 23, 1888.

Art. 3147. (1.) That the city attorney, on behalf of the city, at present a defendant of record in suit 15,774, of the civil district court, entitled "Edward Conery Jr. *et al. vs.* The New Orleans Water Works Company *et al.*" be and he is hereby directed to amend, with leave of the honorable the civil district court for the parish of Orleans, the answer of the city therein, and to join in plaintiff's demand, and to proceed in order to cause be vacated the alleged contract under ordinance 909, C. S. between the city and the New Orleans Water Works Company, of date October 3, 1884, before J. D. Taylor, notary, and to have the same pronounced null and void, and of no effect, as being detrimental to the public rights and interest, beyond the powers of the late city administration, and in fraud of the rights of the city.

Art. 3148. (2.) That the city attorney be and he is hereby authorized to take such further action in pursuance of this ordinance, relative to said cause No. 15,774, and entitled "Edward Conery Jr. and others *vs.* The New Orleans Water Works Company, The City of New Orleans and others" as he may deem necessary for the best interest of the city.

Art. 3149. (3.) That all ordinances or parts of ordinances inconsistent with or contrary to the provisions of this ordinance, be and the same are hereby repealed.

1506 STATE OF LOUISIANA, } *ss:*
Parish of Orleans, }

J. R. Beckwith being duly sworn, deposes and says, that he has compared the above copy of ordinance No. 12,026 and also ordinance 10,758 C. S. with the originals thereof as published in Flynn's Digest of City Ordinances, edition of 1896, that he verily believes that the same are true copies of said originals as published in said digest.

(Signed) J. R. BECKWITH.

Sworn to & subscribed before me this 9th day of January, 1900.

[SEAL.] (Signed) JNO. B. FISHER, *Not. Pub.*

1507 Endorsed: No. 58,345. Civil district court. Parish of Orleans. The State of Louisiana *vs.* The New Orleans Water Works Company. Def't's Offer A No. 32. No. 58345. Civil district court. Parish of Orleans. Filed January 15th, 1900. A. H. Fleming d'y clerk.

1508 "*Craig*" *No.* 1.

Dividends declared annually by New Orleans Water Works Company.

Ap'l	23, '79.	$2.00	per	share.....		$40,000.00
"	23, '80.	2.50	"	"	.....	50,000.00
"	21, '81.	2.00	"	"	.....	40,000.00
"	21, '82.	1.50	"	"	.....	30,000.00
"	11, '83.	2.50	"	"	.....	50,000.00
"	9, '84.	3.00	"	"	.....	60,000.00
"	9, '85.	3.50	"	"	.....	110,000.00
Oct.	" '86.	2.00	"	"	.....	
Oct.	6, '86.	2.00	"	"	.....	80,000.00
Ap'l	9, '86.	2.00	"	"	.....	
Ap'l	1, '87.	2.00	"	"	.....	80,000.00
Oct.	5, '87.	2.00	"	"	.....	
Ap'l	10, '88.	2.	"	"	.....	80,000.00
Oct.	3, '88.	2.	"	"	.....	
Ap'l	3, '89.	2.	"	"	.....	80,000.00
Oct.	2, '89.	2.	"	"	.....	
Ap'l	2, '90.	2.	"	"	.....	80,000.00
Oct.	6, '90.	2.	"	"	.....	
Ap'l	1, '91.	2.	"	"	.....	80,000.00
Oct.	7, '91.	2.	"	"	.....	
Ap'l	6, '92.	2.	"	"	.....	80,000.00
Oct.	5, '92.	2.	"	"	.....	
Ap'l	5, '93.	2.50	"	"	.....	100,000.00
Oct.	4, '93.	2.50	"	"	.....	
Ap'l	4, '94.	2.50	"	"	.....	100,000.00
Oct.	3, '94.	2.50	"	"	.....	
Ap'l	3, '95.	2.50	"	"	.....	100,000.00
Oct.	4, '95.	2.50	"	"	.....	
Ap'l	1, '96.	2.50	"	"	.....	100,000.00
Oct.	7, '96.	2.50	"	"	.....	
Ap'l	7, '97.	2.50	"	"	.....	100,000.00
Oct.	6, '97.	2.50	"	"	.....	
Ap'l	7, '98.	2.25	"	"	.....	45,000.00
						$1,485,000.00
Jan'y	4, '99.	2.	"	"	.....	40,000.00
						1,525,000.00

I certify that this is a correct copy and transcript from the books of the water works Co.

[Seal of New Orleans Water Works Company, Act Approved March 31st, 1877.]

R. L. MACMURDO, *Sec'ty.*

(Endorsed:) Civil district court, parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 16, 1900. (Signed) A. H. Flemming, deputy clerk.

1509 *Craig No.* 2.

New Orleans Water Works Company.

	Receipts.	Disbursements.
Year ending Ap'l 9, '79	100,234.31	42,169.75
" " Ap'l 9, '80	91,859.78	43,296.58
" " Ap'l 9, '81	87,849.63	62,101.76
" " Ap'l 9, '82	103,415.92	76,721.36
" " Ap'l 8, '83	115,418.98	63,740.42
" " Ap'l 8, '84	129,814.35	76,766.40
" " Ap'l 8, '85	150,249.27	75,978.39
" " Ap'l 8, '86	189,888.30	98,528.30
" " Ap'l 7, '87	190,494.32	105,173.90
" " Ap'l 7, '88	197,180.40	98,507.51
" " M'ch 31, '89	177,851.60	100,201.46
" " M'ch 31, '90	221,469.21	109,023.67
" " M'ch 31, '91	202,583.38	118,732.98
" " M'ch 31, '92	210,401.43	115,310.37
" " M'ch 31, '93	203,035.52	112,316.02
" " M'ch 31, '94	212,760.69	112,009.77
" " M'ch 31, '95	221,241.44	132,712.14
" " M'ch 31, '96	237,667.36	148,373.60
" " M'ch 31, '97	254,727.95	146,928.66
" " M'ch 31, '98	248,065.75	148,832.40
From M'ch 31 to Dec. 31, 1898	193,076.87	154,223.67
	$3,739,286.46	$2,141,649.11

$3,739,286.46 receipts.
2,141,649.11 expenses.

$1,597,637.35 difference.

$1,597,637.35
1,525,000.00 dividends to 4th Jan'y, 1899.

$72,637.35

I certify that the above is a correct copy and transcript from the books of the N. O. Water Works Co.

[Seal of New Orleans Water Works Company, Act Approved March 31st, 1877.]

R. L. MACMURDO, *Sec'ty.*

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence January 16, 1900. (Signed) A. H. Flemming, deputy clerk.

1510 *Craig No.* 3.

New Orleans Water Works Company.

Profit and Loss a/c.

1879, Ap'l	9.	Balance after deducting expenses & dividend...				$59,682.67
1880, Ap'l	9.	"	"	"	" ...	65,308.85
1881, Ap'l	9.	"	"	"	" ...	50,685.45
1882, Ap'l	9.	"	"	"	" ...	38,854.70
1883, Ap'l	7.	"	"	"	" ...	10,362.97
1884, Ap'l	8.	"	"	"	" ...	3,937.82
1885, Ap'l	8.	"	"	"	" ...	10,675.75
1886, Ap'l	8.	"	"	"	" ...	56,116.72
1887, Ap'l	8.	"	"	"	" ...	63,956.09
1888, Ap'l	8.	"	"	"	" ...	75,366.46
1889, M'ch	31.	"	"	"	" ...	102,742.64
1890, M'ch	31.	"	"	"	" ...	123,781.78
1891, M'ch	31.	"	"	"	" ...	125,383.79
1892, M'ch	31.	"	"	"	" ...	135,074.99
1893, M'ch	31.	"	"	"	" ...	139,548.00
1894, M'ch	31.	"	"	"	" ...	138,644.42
1895, M'ch	31.	"	"	"	" ...	127,757.43
1896, M'ch	31.	"	"	"	" ...	120,885.95
1897, M'ch	31.	"	"	"	" ...	125,151.73
1898, M'ch	31.	"	"	"	" ...	124,770.12

I certify that this is a correct copy and transcript from the books of the N. O. Water Works Co.

{ Seal New Orleans Water Works Company. }
{ Act Approved March 31st, 1877. }

R. L. MACMURDO, *Sec'ty.*

Craig 3.

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence January 16th, 1900. (Signed) A. H. Flemming deputy clerk.

1511 *Craig* 4.

Year.	Net revenue.	Dividend.	Net surplus.	Deficit.
1886.....	91,360.00	80,000.00	11,300.00	
1887.....	85,320.00	80,000.00	5,320.00	
1888.....	98,672.89	80,000.00	18,672.89	
1889.....	77,650.14	80,000.00	.....	2,349.86
1890.....	112,445.54	80,000.00	32,445.54	
1891.....	83,850.40	80,000.00	3,850.40	
1892.....	95,091.06	80,000.00	15,091.06	
1893.....	90,719.50	100,000.00	.....	9,280.50
1894.....	100,750.92	100,000.00	750.92	
1895.....	88,529.30	100,000.00	.....	11,470.70
1896.....	89,293.76	100,000.00	.....	10,706.24
1897.....	107,799.29	100,000.00	7,779.29	
1898.....	99,233.35	45,000.00	54,233.35	
			149,443.45	33,807.30

149,443.45
33,807.30

$115,636.15

115,636.15
45,000.00 Div. Jan. '99

$70,636.15

I certify that this is a correct copy and transcript from the books of the N. O. Water Works Co.

{ Seal New Orleans Water Works Company. }
{ Act Approved March 31st, 1877. }

R. L. MACMURDO, *Sec'y.*

Craig 4.

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 16th, 1900. (Signed) A. H. Flemming, deputy clerk.

1512 *Craig* 5.

Memorandum of State taxes paid by New Orleans Water Works Co.

1879–'81	$8,959.85
1882	4,919.36
1883	5,378.01
1884	5,979.79
1885	4,870.71
1886	6,562.45
1887	5,974.33
1888	6,358.15
1889	5,991.21
1890	10,238.50
1891	7,000.00
1892	7,500.00
1893	7,701.40
1894	11,446.40
1895	11,119.36
1896	11,118.05
1897	11,445.05
1898	12,262.50
Total	$144,825.12

I certify that this is a correct copy and transcript from the books of the N. O. Water Works Co.

{ Seal New Orleans Water Works Company. }
{ Act Approved March 31st, 1877. }

R. L. MACMURDO, *Sec'ty.*

Craig 5.

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 16th, 1900. (Signed) A. H. Flemming, deputy clerk.

1513 *Craig* 6.

Memorandum of city taxes paid by N. O. Water Works Co.

1885	$20,619.37
1886	22,093.59
1887	20,113.60
1888	21,405.78
1889	20,170.41
1890	29,545.39
1891	20,200.00
1892	20,200.00
1893	22,004.00

1894	32,704.00
1895	32,704.00
1896	32,700.00
1897	32,700.00
1898	32,700.00
Total	$359,860.14

I certify that this is a correct copy and transcript from the books of the N. O. Water Works Co.

{ Seal New Orleans Water Works Company. Act Approved March 31st, 1877. }

R. L. MACMURDO, *Sec'ty.*

Craig 6.

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 16th, 1900. (Signed) A. H. Flemming, deputy clerk.

1514 *Craig* 7.

Assessment N. O. Water Works Co.

1888	Machinery & etc.	290,000.	
	Shares stock	614,692.	
	Real estate	155,000.	
			1,059,692.
1889	Shares stock	553,535.	
	Machinery	290,000.	
	Real estate	155,000.	
			998,535.
1890	Shares stock	1,017,643.	
	Machinery	290,000.	
	Real estate, etc.	155,000.	
			1,462,643.
1891	Machinery & power	595,000.	
	Franchise	250,000.	
	Real estate	155,000.	
			1,000,000.
1892	Machinery	595,000.	
	Franchise	250,000.	
	Real estate	155,000.	
			1,000,000.
1893	Machinery	500,000.	
	Franchise	460,000.	
	Real estate	140,000.	
			1,100,200.
1894	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000

1895	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000.
1896	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000.
1897	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000.
1898	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000.
1899	Machinery	595,000.	
	Franchise	900,000.	
	Real estate	140,000.	
			1,635,000.

I certify that this is a correct copy and transcript from the books of the N. O. Water Works Co.

{ Seal New Orleans Water Works Company. }
{ Act Approved March 31st, 1877. }

Craig 7.

R. L. MACMURDO, *Sec'y.*

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 16th, 1900. (Signed) A. H. Flemming, deputy clerk.

1515 "*Craig* 8."

STATE OF LOUISIANA, }
Parish of Orleans. }

No. 4301.

State Taxes for 1898.

NEW ORLEANS, *Dec.* 29, 1898.

Received of M—— New Orleans Water Works Co. twelve thousand two hundred & sixty-two $\frac{50}{100}$ dollars, amount of State and Orleans levee district taxes for the year 1898, on the property described on the reverse hereof, in accordance with law.

State tax	9,810.00
Special levee tax &-	2,452.50
	12,262.50
Interest	
Costs	

C. HARRISON PARKER,
State Tax Collector, 1st District, Parish of Orleans,
[SEAL.] Per C. E. LETTEN, *Deputy.*

Printed in margin on the left in red ink: The tax-payer shall present his tax receipt to the recorder of mortgages, who shall cancel the mortgage against the property described upon receipt.

(On reverse.)

State taxes, 1898, $12,262.50. P'd Dec. 29, '98.

Assessment district,	stock in trade, etc.	square	No.	—....	$
"	cash on hand, money lent, etc.	"		—....	
"	animals, vehicles, etc.	"		—....	
"	furniture, etc.	"		—....	
5	" machinery	"		171....	595,000
"	" franchise	"		"	900,000
1	" real estate	"		21 B.	25,000
1				39...	50,000
1				83...	65,000
					$1,635,000

(Endorsed:) "Craig 8" No. 58345 Civil district court parish of Orleans. Filed Jan. 16 1900 A. H. Flemming, d'y clerk.
(Stamped:) Civil district court. 30c. Jan. 16, 1900 paid Paul O. Guerin, clerk.

1516 "*Craig* 9."

STATE OF LOUISIANA, }
Parish of Orleans. }

No. 4197.

State Taxes for 1899.

NEW ORLEANS, *Dec.* 27, 1899.

Received of M—— N. O. Water Works eleven thousand four hundred & forty-five & xx/100 dollars, amount of State and Orleans levee district taxes for the year 1899, on the property described on the reverse hereof, in accordance with law.

State tax	9,810.00
Levee tax	1,635.00
	$11,445.00

Interest.....
Costs.....

C. HARRISON PARKER,
State Tax Collector, 1st District, Parish of Orleans,
Per C. E. LETTEN, *Deputy.*

Printed in the margin on the left in red ink: The tax-payer shall present his tax receipt to the recorder of mortgages, who shall cancel the mortgage against the property described upon receipt.

(On reverse.)

State tax bill, $11,445. P'd Dec. 27, '99, for 1899.

Assessment district,	stock in trade, etc.	square	No.	—...	$
"	cash on hand, money lent, etc.	"		—...	
"	animals, vehicles, etc.	"		—...	
"	furniture, etc.	"		—...	
5	" machinery	"	171...		595,000
"	" franchise	"	" ...		900,000
1	" real estate	"	21 B.		25,000
1			39...		50,000
1			83....		65,000
					$1,635,000

(Endorsed:) "Craig 9" No. 58345 Civil district court, parish of Orleans. Filed Jan. 16 1900. A. H. Flemming, d'y clerk.
(Stamped:) Civil district court 30c. Jan. 16 1900 paid Paul O. Guerin, clerk.

1517 *"Craig No. 10."*

Office of New Orleans Water Works Co., 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner; superintendent; R. L. Macmurdo, sec't'y and treasurer.

NEW ORLEANS, —— —, 189–.

Extract from minutes of a regular meeting of board of directors N. O. Water Works Co. of Nov. 6, '95.

Present: Mess. R. E. Craig—A. Baldwin—G. W. Nott—M. J. Hart—Hon. J. Fitzpatrick, C. H. Schenck, & a quorum.
"Mr. Baldwin offered the following resolution, seconded by Mr. Fitzpatrick & carried, viz:

Resolved, That the president of this company be & is hereby authorized to borrow money for the use of this company, giving note or notes for same."

(Signed) R. L. MACMURDO, *Sec'ty.*

(1 cancelled U. S. int. rev. 10c. documentary stamp)

I certify that the above is a true & correct copy from the books (minute) of the Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec'ty.*

(Endorsed:) "Craig 10." No. 58345 Civil district court, parish of Orleans. Filed Jan. 16 1900. A. H. Flemming, d'y clerk.
(Stamped:) Civil district court. 30c. Jan. 16 1900 Paid Paul O. Guerin, clerk.

(*Craig* 11.)

Office of New Orleans Water Works Co., 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, secretary and treasurer.

NEW ORLEANS, —— —, 189-.

Extracts from minutes of special meeting of board of directors N. O. Water Works Co. Sept. 9, '92.

Present: Mess. R. E. Craig, A. Baldwin, J. H. Abraham, 1518 C. H. Schenck, Jno. Fitzpatrick & C. Taylor Gauche—& a quorum.

"Mr. Fitzpatrick moved, seconded by Mr. J. H. Abraham, that the president, in conjunction with a majority of the finance committee, be authorized & empowered to borrow a sufficient sum of money for the necessities of the company."

(Signed) R. L. MACMURDO, *Sec'ty.*

I certify that the above is a true & correct copy from the minute book of the Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec'ty.*

(1 cancelled U. S. int. rev. 10c. documentary stamp)

(Endorsed:) "Craig 11." No. 58345 Civil district court, parish of Orleans. Filed Jan. 16, 1900. A. H. Flemming, d'y clerk.
(Stamped:) Civil district court. 30c. Jan. 16 1900 Paid Paul O. Guerin, clerk.

1519 "*Craig* 12."

Civil District Court for the Parish of Orleans.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 58345.

Filed in evidence Jan. 16, 1900.

A. H. FLEMMING,
Deputy Clerk.

A

H. Abraham	350
M. Abascal	35
J. B. A. Ahrons	10
Mrs. F. E. Addison	50
J. H. Abraham	20
P. Ader	70
M. Abascal & Bro	15
	550

B

Board of Liquid'n of City Debt	3927
Henry Bier	339
Mrs. J. B. Behm	3
Mrs. I. Baker	62
A. Baldwin	365
Miss A. Bergerol	21
Louise S. Broadwood	75
Anna H. do.	75
J. A. Brazelman, treas'r	50
Mrs. M. Bourdette	1
Mrs. M. E. Braughn	200
Jacob Bloch	50
Mrs. Alice D. Bein	5
Geo. C. Bright	10
J. G. Baker	12
	5195

C

R. E. Craig	1039
E. Chassauiol	173
Mrs. M. E. Craig	38
Fanny H. Craig	3
Emmet Craig	2
L. H. Cosby	70
W. C. Craig	60
D. S. Carroll	100

N. C. Cromwell	15
Mrs. F. Caheen	2
Edaige M. Choppin	5
Augb. do. tutor	5
Carmend de S. Carvajal	25
Miss C. L. Correjolles	15
Miss M. Cola	10
	1562

D

Folio 96.

A. Delvaille	10
F. Dupasquin	76
J. Dubos	1
P. Demaré	60
P. Desmaries	20
J. B. Davenport	50
J. Domecq	50
Do. do.	23
Mrs. H. De Buys	3
W. T. Doswell	2
Jas. De Buys	111
Mrs. C. J. Duffy	7
Mrs. E. W. Delbondio	17
	430

E

E. P. Ellis	100

F

Jos. Flanner	100
Mrs. C. D. Flanner	3
Jos. E. Friend	10
W. E. Frederick	20
Miss C. Fairchild	25
R. W. Fischer	5
	163

G

	66
G. L. Gauttier	29
Mrs. Cora Goldstein	6
P. L. Godchaux	25
L. Godchaux	71
S. Gumbel & Co	50
Germania Ins'ce Co	20
Mrs. N. V. Gibert	50
Mrs. E. Grima ex'x	10

Mrs. Clotilde Guillot	12
Mrs. Louise Gex	12
Mrs. M. A. Gilly	3
Jos. Getzinger	29
Germania Nat'l Bk	104
Jacob Hassinger	65
Ed. Hansen	2
C. H. Heck	407
Mrs. H. J. Heck	30
Simon Hernsheim	133
Isidore Hernsheim	50
Jos. Hernsheim	28
J. H. Hanna	580
	1726

H

	1726
F. T. Howard	1000
Alvin P. Howard	100
Edgar B. Howard	100
H. T. Howard	100
E. R. Hunt	25
Mrs. C. T. Hobson	50
Mrs. F. E. Holliday	6
Kate T. Hill	8
Abbie J. Haskell	20
F. B. Hoffman	100
L. H. Hantot	5
Jos. R. Hymel	50
Peter Hellwege	40
P. Hellwege & Co	80
Mrs. M. F. Hayward	58
Hyams M. & W	2306
Hopkins Mrs. M	22
	5776

I

Isaacson H. M.	20

J

Mrs. M. C. Jennings	3
Laura C. Jamison	75
H. M. Johnson	50

K

C. C. Krumbhaar	1
Gustave Kohn	40
Mrs. L. Kennedy	21
U. Koen	125

Mrs. Anna Kernion	11
R. W. Kopp	15
	341

L

A. J. Louis	50
Mrs. Theo. Lewis	5
Miss P. Labatut	1
Miss C. do.	1
Mrs. H. C. Lay	60
Caluré Lazard	107
F. A. Lambert	30
B. Landau	54
Lafayette Fire I. Co	50
Mrs. X. Lambert	75
F. Limongi	25
Ike Loeb	130
Felix do.	145
Jos. Lenes	100
Sol. Loeb	39
H. Lange	20
M	
	892

M

	53
W. A. Mysing	2
Mrs. M. A. Montejo	150
Est. Jas. Magee	25
Jno. Matheo	12
D. H. Morris	500
A. H. Morris trustee	275
A. H. Morris	295
Mrs. I. Morris	11
Muller Schall & Co	25
R. L. Macmurdo	10
Mrs. C. L. Miltenberger	20
Jos. Moore	50
Mrs. L. M. Michel	25
Widow E. Mathé	10
Martinez D. B.	100
Thos. Milmow	10
T. L. Macon Jr.	150
	1680

Mc

	1680
G. M. McLellan	33
A. M. McGehee	10
E. J. McPherson	5

Catherine McNeil	22
Louise E. do.	3
Jos. N. do.	3
Cora do.	3
Mrs. M. L. McQuoid	50
	1809

N

M. W. Newman	68
I. Newman, Sr.	35
G. W. Nott	200
H. Neugass	15
N. O. Nat'l Bk	200
	518

O

Oertling Mrs. F	2
Do. Mrs. L. C	12
	14

P

Popp Mrs. H. N	3
Phœbe T. Palfrey	15
Pélé Mrs. L. G	2
Perkins Mrs. R. H	40
Pokorny M.	25
Prudhomme A	30
Pfeifer S. & Co	25
	140

R

J. H. Rills	1
Jules Ries	40
G. W. Rea	100
Wm. Rutledge	100
St. M. Rosenthal	270
S. U. Rosenthal	310
Mrs. R— do.	20
G. E. Rommel	10
J. M. Rogers	23
T. J. Rodgers	100
Rainey J. S.	43
Mrs. C. Rolling	64
A. Ribet	11
	1092

S

Eug. Shiff	57
Gustave Shiff	12
Theo. do.	2

B. S. Suarez	25
P. S. do.	25
Sun Mut'l I. Co.	170
Mrs. E. F. Smith	125
K. D. Sloan	45
Angelo Socola	50
A. W. do.	5
H. do.	6
R. W. Simmons	11
Mrs. M. S. Stewart	60
M. C. Spencer	1
A. E. do.	1
W. B. do. tutor	1
Do. do.	1
E. G. Schleider	280
Miss M. Sparicio	20
C. M. Soria	11
Mrs. B. B. Steers	23
	931

T

Mrs. C. Tilton	39
C. B. Thorn	34
E. S. Turpin	11
T. C. Theurer	45
C. Trumpy	10
	139

V

F. Vatter	22
Wm. Veners Sr.	30
	52

W

Julius Weiss	150
Mrs. F. S. White	16
Hattie L. Wright	15
Mrs. F. B. Woodward	12
A. B. Wheeler	25
	218

Z

Louise Ziegler	17
Gus. A. do.	16
Mrs. E. de Zamora	25
	58

1520 *Craig* 13.

Amount expended annually since 1878 on permanent imp'v's & ext's.

Ap'l 9, '79.	Paid during this year.....	5,953.08
Ap'l 9, '80.	" " " "	178,744.63
Ap'l 9, '81.	" " " "	134,183.69
Ap'l 9, '82.	" " " "	31,286.58
Ap'l 8, '83.	" " " "	6,333.28
Ap'l 8, '84.	" " " "	6,824.91
Ap'l 8, '85.	" " " "	28,299.72
Ap'l 8, '86.	" " " "	3,934.20
Ap'l 7, '87.	" " " "	14,342.62
Ap'l 7, '88.	" " " "	3,778.04
Ap'l 8, '89.	" " " "	3,465.08
M'ch 31, '90.	" " " "	7,119.72
M'ch 31, '91.	" " " "	1,870.49
M'ch 31, '92.	" " " "	16,403.84
M'ch 31, '93.	" " " "	18,075.25
M'ch 31, '94.	" " " "	18,670.25
M'ch 31, '95.	" " " "	28,466.09
M'ch 31, '96.	" " " "	158,921.91
M'ch 31, '97.	" " " "	23,092.37
M'ch 31, '98.	" " " "	13,902.74
		$703,568.49

1892, '93.	New engine & filter plant ac. this year.....			$97,058.40	
1893, '94.	Do.	do.	do.	38,266.63	
1894, '95.	Do.	do.	do.	20,714.65	
					156,039.68
					$859,608.17

I certify that the above is a correct copy and transcript from the books of the N. O. Water Works Co.

R. L. MACMURDO, *Sec't'y.*

(Endorsed :) No. 58345. Civil district court for the parish of Orleans. Filed Jan'y 16th, 1900. (Signed) A. H. Flemming, d'y Clerk. Craig 13.

1521 "*Craig* 14."

Office of New Orleans Water Works Co., 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, secretary and treasurer.

NEW ORLEANS, *Jan'y 17th*, 1900.

Mr. R. E. Craig, pres't.

DEAR SIR: I desire to inform you that the list of stockholders submitted to the court by you yesterday as prepared by me, represented the holdings Dec. 1898. As I understood we could not present anything that occurred during the year 1899.

Respectfully,

[SEAL.] (Signed) R. L. MACMURDO, *Sec't'y.*

(1 cancelled U. S. int. rev. 10c. documentary stamp)

(Endorsed:) "Craig 14" Civil district court, for the parish of Orleans. No. 58345 State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 17 1900 A. H. Flemming, deputy clerk.

(Stamped:) Civil district court 30c. Jan. 17 1900 Paid Paul O. Guerin, clerk.

"*Craig* 15."

Stock Ac. of the Sun Mutual Ins'ce Co.

1889.
Sept. 27. Cr. by certificate No. 6782..... ... 170
1899.
Feb. 23. Dr. to shares transf'd to Sun Ins'ce Co..... 170

Ac. Sun Ins'ce Co.

1899.
Feb. 23. Cr. by certificate No. 6782..... ... 170
1899.
June 16. Dr. to number shares transf'd to Hyams Moore & Co..... 170

I hereby certify that the above is a true & correct copy & transfer from the books of the New Orleans Water Works Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec't'y.*

1522 (1 cancelled U. S. int. rev. 10c. documentary stamp)

(Endorsed:) "Craig 15."

(Stamped:) Civil district court, for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Offered in evidence Jan. 17 1900. A. H. Flemming, deputy clerk.

(Stamped:) Civil district court. 30c. Jan. 17 1900 paid Paul O. Guerin, clerk.

1523 *Craig* 16.

New Orleans Water Works Company.

Profit and Loss Ac.

1879, Ap'l	9.	Balance after deducting expenses & dividend...				$59,682.67
1880, Ap'l	9.	"	"	"	"	... 65,308.85
1881, Ap'l	9.	"	"	"	"	... 50,685.45
1882, Ap'l	9.	"	"	"	"	... 38,854.70
1883, Ap'l	7.	"	"	"	"	... 10,362.97
1884, Ap'l	8.	"	"	"	"	... 3,937.82
1885, Ap'l	8.	"	"	"	"	... 10,675.75
1886, Ap'l	8.	"	"	"	"	... 56,116.72
1887, Ap'l	8.	"	"	"	"	... 63,956.09
1888, Ap'l	8.	"	"	"	"	... 75,366.46
1889, M'ch	31.	"	"	"	"	... 102,742.84
1890, M'ch	31.	"	"	"	"	... 123,781.78
1891, M'ch	31.	"	"	"	"	... 125,383.79
1892, M'ch	31.	"	"	"	"	... 135,074.99
1893, M'ch	31.	"	"	"	"	... 139,548.00
1894, M'ch	31.	"	"	"	"	... 138,644.42
1895, M'ch	31.	"	"	"	"	... 127,757.43
1896, M'ch	31.	"	"	"	"	... 120,885.95
1897, M'ch	31.	"	"	"	"	... 125,151.73
1898, M'ch	31.	"	"	"	"	... 124,770.12
1899, M'ch	31.	"	"	"	"	... 94,660.83

I certify that this is a correct copy and transcript from the books of the water works Co.

R. L. MACMURDO, *Sec'ty.*

Craig 16.

94,660.83
40,669.23

135,330.06 Filter plant from March 31, '98 to M'ch 31, '99.

From March 31 to Jan'y 1st 9 months or ¾ of total for the year should be $111,497.53.

(Endorsed:) Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co., Filed in evidence January 17th, 1900 (Signed) A. H. Flemming deputy clerk.

1524 *"Craig 17."*

Bills payable.

1892.					
Sept. 22.	By cash	Demand note.....	.....		35 000
Dec. 22.	To "	.....		35 000	.....
1894.					
Ap'l 13.	By "	" "	.....		20 000
June 14.	" "	" "	.....		30 000
Sept. 21.	" "	" "	.....		20 000
"	" "	" "	.....		20 000
1894.					
May 4.	To cash	"		5 000	.....
Sept. 21.	" "	.....		45 000	.....
1895.					
Ap'l 4.	" "	" "		40 000	.....
Nov. 11.	By "	" "		.....	90 000
Dec. 10.	To "	.....		5 000	.....
1896.					
Nov. 16.	By "	. ...		.....	50 000
" 16.	To cash	.....		10 000	.....
21.	" "	.....		5 000	.....
Dec. 7.	" "	.....		5 000	.....
1897.					
Feb'y 9.	" "	.....		10 000	.....
M'ch 15.	" "	.....		10 000	.....
" 8.	By cash	.....		.....	15 000
	Balance to new ledger.....			110 000	.....
				280 000	280 000
	By balance bro't down.....			.....	110 000
1898.					
Nov. 5.	To cash	.....		5 000	.....
14.	" "	.....		10 000	.....
1899.					
June 30.	" "	.....		5 000	.....
				20 000	110 000
	Balance down.....			90 000	.....
				110 000	110 000
1899.					
	By balance down.....			.....	90 000

I hereby certify that the foregoing is a true & correct extract from the books & records of the New Orleans Water Works Co.

[SEAL.] (Signed) R. L. MACMURDO, *Sec'y.*

1525 (1 cancelled U. S. int. rev. 10c. documentary stamp.)

(Endorsed:) "Craig 17" Civil district court, for the parish of Orleans No. 58345 State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 17, 1900. A. H. Flemming, deputy clerk.
(Stamped:) Civil district court. 30c. Jan. 17, 1900 paid Paul O. Guerin, clerk.

"*Craig* 18."

Cash receipts from Ap'l 1, '98, to Dec. 31, '98:

Water rates 1st dist		$139,204.73
2nd "		37,219.45
Meter bills		16,652.69
		193,076.87

Cash disbursements from Ap'l 1, '98, to Dec'r 31, '98:

Hydrant service	$7,970.95	
Interest ac	35,926.74	
Miscellaneous exp's	6,474.13	
Office exp's	7,285.14	
Pumping service	12,449.54	
Repairs ac	2,034.76	
Street-service repairs	7,169.91	
City taxes 1898	32,700.	
State do. 1898	12,262.50	
Coupon ac. 1st mort.	23,700.	
do. 2nd "	6,250.	
		154,213.67
		38,853.20

(1 cancelled U. S. int. rev. 10c. documentary stamp.)

I hereby certify that the above is a true and correct copy from the books of the N. O. Water Works Co.
[SEAL.] R. L. MACMURDO, *Sec't'y.*

(Endorsed:) Receipts & disbursements from Ap'l 1, '98 to Dec. 31 '98. Civil district court for the parish of Orleans. No. 58345. State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 17, 1900 A. H. Flemming, deputy clerk.
(Stamped:) Civil district court. 30c. Jan. 17 1900 paid Paul O. Guerin, clerk. "Craig 18."

1526 "*Craig* 19."

Office of New Orleans Water Works Co., new No. 608 Common street. R. E. Craig, president; A. Baldwin, vice-president; L. H. Gardner, superintendent; R. L. Macmurdo, sec'y and treas.

NEW ORLEANS, *May 28th*, 1898.

Hon. A. Brittin, acting mayor city of New Orleans.

DEAR SIR: During the prevalence of the present protracted drouth, this company is endeavoring to discharge its duties to those who live beyond the lines of our mains by opening fire-hydrants for their free supply. We are competent and have ample facility in pumping capicity to compass this, to meet the requirements of the department of public works and the fire department as well as our private consumers. We cannot do this however if the present lawless opening of our fire-hydrants continues. We are carrying a pressure at the pumping station due to 85 feet head while in various parts of the city residents cannot obtain water on the second floor of their houses, and at least two railroads are embarrassed for lack of water supply.

Under these circumstances should a large fire occur the fire department would be nearly if not entirely powerless.

This condition is the result as before stated, of the unlawful, indiscriminate, and wholesale opening of fire-plugs. We claim protection for our property and respectfully ask such aid of police as will enable us to comply with our obligations to the city: otherwise the city must assume the risk attending a large fire.

Respectfully,

NEW ORLEANS WATER WORKS CO.
R. E. CRAIG, *Pres.*

(Endorsed:) "Craig 19" Civil district court for the parish of Orleans, No. 58345 State of Louisiana *vs.* New Orleans Water Works Co. Filed in evidence Jan. 17, 1900. A. H. Flemming, deputy clerk.

Copy of Letter from Joseph Albrecht, Analyist, Dated May 30th, 1898

1527 "There is absolutely nothing in this hydrant water from the New Orleans water works that can be injurious to health. The clay and sand is neither healthy nor unhealthy it only makes the river water disagreeable to drink."

(*Craig No.* 20.)

NEW ORLEANS, *December 1st*, 1896.

Mr. R. E. Craig, pres't N. O. water works.

DEAR SIR: I send you herewith my analysis of the unfiltered hydrant water, which you ordered through Mr. Bruno Tuma to be

analyzed by me. The water was taken by myself opposite Mr. Tuma's store on Camp street on November the 21st. Though the water was cloudy I found it remarkably clearer than hydrant water at other times, which is commonly muddy, holding much clay and other solid matter in suspension, except a year or so ago, when it contained alum, which I know was employed to settle the river water. Only one article surprised me to find in notable quantity, that is, lime, because I found never more than a trace of lime in river water in all the analyses I made of it, and I made money. Should you want more information call on me, I think I can satisfy your desire in every respect.

Very truly yours,

(Signed) JOSEPH ALBRECHT, *Analyist.*

See additional report of Dec. 8th, '96, hereto attached.

(Endorsed :) "Craig 20." No. 58345. Civil district court, parish of Orleans. Filed Jan. 17, 1900. A. H. Flemming, d'y clerk.

(*Craig No.* 21.)

NEW ORLEANS, LA., *Dec. 8th*, 1896.

R. E. Craig, Esq.

DEAR SIR: In my report on the analysis of the hydrant water, which I analyzed for you, I forgot to mention (in my letter) that this hydrant water is in my opinion as healthy as any drink-
1528 ing water can be obtained. It contains nothing that is injurious to health. I supplement herewith my last report.

Very truly yours,

(Signed) JOSEPH ALBRECHT.

Analytical laboratory. Joseph Albrecht, M. D., chemist.

Special and prompt attention given to analysis of sugar products, fertilizers, metals, ores, etc.

P. O. address 219 Elysian Fields street.

NEW ORLEANS, *December 1st*, 1896.

Analysis of Unfiltered Hydrant Water Taken on Camp Street Bet'n Canal and Common on November 21st, 1895.

In 1 gallon.	In grains.	
Chloride of sodium	2.452	2.
Calcium sulphate	.759	
" carbonate	5.472	
Magnesium carbonate	1.225	
Clay or silicate of alumina	2.744	
Silica in solution	3.270	
Organic (vegetable) matter	1.447	
Total of solid matter	17.399	

(Signed) JOSEPH ALBRECHT, *Alanuist.*

Copy.

N. O., *Dec.* 17*th*, 1896.

Mr. R. E. Craig, pres't N. O. W. W. Co.

DEAR SIR: I forgot in my last letter to you to mention that
1529 the commission of bygiene & public health limits the quantity of albuminous nitrogen in drinking water to 100.000,000—0.000.000.020 parts, as perfectly healthy. It might contain more without being injurious to health but for greater safety the above quantity has been adopte-.

Very truly yours,

(Signed) JOS. ALBRECHT.

Copy.

N. O., *Dec.* 17*th*, 1896.

Analysis of 2nd Sample of Hydrant Water Taken on Dec. 9th on Camp St. Between Canal & Common Sts., by Myself.

Ingredients in 1 gallon:

Sodium chloride	1.51	grains.
Calcium carbonate	7.59	"
Calcium sulphate	0.75	"
Magnesium carbonate	1.53	"
Clay	7.65	"
Silica	2.92	"
Organic matter	4.20	
Oxide of iron	1.34	
Total	27.49	

Copy of Letter from Joseph Albrecht, Analyist, Dated May 30*th*, 1898.

"There is absolutely nothing in this hydrant water from the New Orleans water works that can be injurious to health. The clay and sand is neither healthy nor unhealthy it only makes the river water disagreeable to drink."

Copy.

NEW ORLEANS, *Dec.* 17*th*, 1896.

Mr. R. E. Craig, pres't N. O. W. W. Co.

DEAR SIR: I hasten to send you my two analyses of water, one taken on 9th from the same hydrant as the first on Camp street, between Canal & Common. The other sample taken on Dec. 11th in the yard of the pumping station of the water works, it is said to be the
1530 natural river water. The waters of those two samples contain the same ingredients as the first one, with the only difference that they contain more clay & fine sand & some oxide of iron, all other mineral substances are practically the same. The last sample of unfiltered river water gave 47.45 grains of solid matter per gallon,

the same water filtered only 7.12 grains of which 4.85 grains were calcium carbonate or nearly $\frac{2}{3}$ of all the lime in the unfiltered water, the balance of 2.57 grains consisted of chloride of sodium, silica & some organic matter. In my last report I made no mention of the ammonia yielding nitrogenous matter because the quantity of nitrogen was so ridiculously small that I omitted it and in fact means practically nothing. In fact I found less ammonia in it, than I find in my cistern rain water collected from the slate roof of my isolated house far from any stable or any back-house.

There is no danger that the Mississippi water will become so much charged with albuminoid substances as to become dangerous to health, because blood, flesh, the offals of slaughter-houses, kitchens, streets and other albuminoids will quickly be destroyed by aquatic animals, such as crawfish, shrimps, crabs & miriads of la-væ of aquatic insects who live on it, it is their nurishment. Besides in running water organic matter will soon be oxidized by the air to which it is continuously exposed & become harmless nitrates & nitrates. I except the immediate neighbourhood where the offal is dumped in the river.

It is very difficult to determine the exact quantity of nitrogen. The so-called color test of the Nessler reagent gives only approximate estimation. For the river water I made a determination and give on the average of the total nitrogen in 100 galls.

Let me know if you desire more information & I will give you either personally or by writing all I can.

Very truly yours

(Signed) JOSEPH ALBRECHT.

Copy.

Analysis.

1531 N. O., *Dec.* 17*th*, 1896.

Of a sample of water taken by myself on Dec. 11, '96, in the yard of the pumping station of the *W.* O. W. W. said to be natural river water.

Ingredients in one gallon.

Chloride sodium	1.46
Calcium sulphate	.75
Calcium carbonate	7.59
Magnesium carbonate	1.63
Clay & fine quartz sand	26.86
Silica	3.27
Oxide iron	1.69
Total organic matter	4.20
Total of solids	47.45

Average of nitrogen determination:

Nitrogen in am-onia	0.293	
Do. " albuminoids	0.146	approximate.
Do. " nitrate & nitrates	none.	
Total of nitrogen in 100 gal	0.439	

Or $\frac{7}{100\,000\,000}$ parts.

I submit the following memorandum:

Receipts from water and other articles sold during past 20 years to Ap'l 1, '98 amount to		$3,546,209.59
Deduct disbursements made for operating expenses, taxes and interest on bonds and bills payable, for the period amounting to		1,987,425.44
Shows the difference, or net profit		$1,558,794.15
Dividends during the same period have been declared to the amount of		1,440,000.00
Leaving a surplus		$118,784.15
Should proceeds of bonds and notes be included in receipts the amount would be as heretofore stated	$3,346,209.59	
Plus proceeds of bonds and notes	755,000.00	
		4,301,209.59
In the matter of disbursements the amount would be, as heretofore stated	$1,987,425.44	
Plus disbursements made for "improvements and extensions"	859,608.17	
		2,847,033.61
Leaving a remainder of		$1,454,175.98
Dividends declared		1,440,000.00
Leaving a balance of		$14,175.98
1532 To this balance of		$14,175.98
If the amount due from improvements & extensions account be added		104,608.17
The result will be		$118,784.15

The same as the other method.

(Endorsed:) "Craig 21" No. 58345 Civil district court, parish of Orleans. Filed Jan. 17, 1900. A. H. Flemming, d'y clerk.
(Stamped:) Civil district court .30 Jan. 17, 1900 Paid Paul O. Guerin, clerk.

1533 *Proceedings Had in the Supreme Court of the State of Louisiana.*

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

Appeal from the civil district court, parish of Orleans.

Motion, Affidavit, and Order for Time.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

On motion of Walter Guion, attorney general, and of Benjamin Rice Forman of counsel for the State of Louisiana and appellant, and on filing the affidavit of the clerk of the lower court, showing that he will require further time to complete the transcript of appeal in this case; it is ordered by the court that the return day for filing said transcript in this court be extended to the 21st day of November A. D., 1900.

Entered and filed Nov'r 5 1900.

(Signed) T. McC. HYMAN, *Clerk.*

(Endorsed:) State of Louisiana *vs.* New Orleans Water Works Company. Motion & order for extension of time for filing transcript.

STATE OF LOUISIANA:

Civil District Court for the Parish of Orleans.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 58345.

1534 William B. Murphy deputy clerk of the civil district court for the parish of Orleans, being duly sworn, deposes and says that the transcript of appeal in the above entitled and numbered cause, returnable to the supreme court of the State of Louisiana on the first Monday of November 1900, has not been completed, for the reason that there has not been sufficient time to complete same and that an additional delay until the 3rd Monday of November 1900 from this date is necessary to enable him to complete the same.

(Signed) W. B. MURPHY,
[SEAL.] *Deputy Clerk.*

Sworn to and subscribed before me this 5th day of November A. D. 1900.

(Signed) P. A. DUCOING,
Deputy Clerk of the Civil District Court for the Parish of Orleans.

(Endorsed:) No. 13701. Supreme court of Louisiana State of Louisiana *vs.* New Orleans Water Works Company Appeal from the civil district court for the parish of Orleans. Affidavit for extension of return day. Filed Nov. 5th, 1900. (Signed) Paul E. Mortimer dep. clerk.

Motion, Affidavit, and Order for Additional Time.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

On motion of Walter Guion, attorney general and Benjamin Rice Forman of counsel for the State of Louisiana, and on showing to the court by the affidavit of the clerk that he has not been able to complete the transcript of appeal and a delay of five days is necessary.

It is ordered by the court that the delay for filing the transcript of appeal be extended for five days.

Entered & filed Nov. 19, 1900.

(Signed) T. McC. HYMAN, *Clerk.*

(Endorsed:) No. 13701 Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Co. Motion and
1535 order for extension of time to file transcript.

STATE OF LOUISIANA:

Civil District Court for the Parish of Orleans.

STATE OF LOUISIANA
vs.
N. O. WATER WORKS CO. } No. 58345.

William B. Murphy deputy clerk of the civil district court for the parish of Orleans, being duly sworn, deposes and says that the transcript of appeal in the above entitled and numbered cause, returnable to the supreme court of the State of Louisiana on the third Monday of November 1900, has not been completed, for the reason that there has not been sufficient time to complete same, and that an additional delay of five (5) days from this date is necessary to enable him to complete the same.

(Signed) W. B. MURPHY,
[SEAL.] *Deputy Clerk.*

Sworn to and subscribed before me this 19th day of November A. D. 1900.

(Signed) JAS. D. RANKIN,
[SEAL.] *Deputy Clerk of the Civil District Court for the Parish of Orleans.*

(Endorsed:) No. 13701. Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Co. Appeal from the civil district court for the parish of Orleans. Affidavit for extension of return day Filed Nov. 19, 1900 (Signed) T. McC. Hyman clerk.

Transcript of Appeal Filed.

Supreme Court of the State of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

Filed November 21st, 1900.
(Signed) PAUL E. MORTIMER,
Deputy Clerk.

1536 *Motion and Order: Cause Set for Trial.*

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

On motion of Walter Guion, attorney general and of Benjamin Rice Forman of counsel for the State of Louisiana and on showing to the court that this is a case of great public importance, it is ordered by the court that the above-entitled cause be fixed for argument on Tuesday 18 December 1900 at 11 o'clock a. m. and counsel for defendant & intervenor be notified.

(Endorsed:) Supreme court of La. State of Louisiana *vs.* New Orleans Water Works Company. Motion & order to fix for argument. Entered & filed Nov'r 21, 1900 (Signed) T. McC. Hyman clerk.

Cause Continued.

(Extract from Minutes.)

NEW ORLEANS, TUESDAY, *December 18th*, 1900.

The court was duly opened, pursuant to adjournment.
Present: Their honors Lynn B. Watkins, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, associate justices.
Absent: Francis T. Nicholls, chief justice.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

When this case was called for trial, Mr. Walter Guion, attorney general, calling attention to the absence of his honor the chief justice, confined to his bed by illness, suggested it would be of great advantage that the argument should be made before all the justices. And counsel for the defendant consenting to a continuance, the court ordered the case to be continued to Tuesday the 8th day of January, A. D. 1901, at 11 o'clock a. m., to be heard at chambers.

1537 *Cause Continued.*

(Extract from Minutes.)

NEW ORLEANS, MONDAY, *January 7th*, 1901.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, associate justices.

Absent: Lynn B. Watkins, associate justice.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

On joint motion of Walter Guion, Esq., attorney general, and Benjamin Rice Forman, Esq., of counsel for the plaintiff and appellant, and of Ernest B. Kruttschnitt and J. R. Beckwith, Esquires of counsel for the defendant and appellee, it is ordered by the court that this cause, heretofore set down for hearing at chambers on Tuesday, the 8th day of January instant, be continued and reassigned for Monday, the 21st day of January instant, at 11 o'clock a. m.

Cause Heard and Continued.

(Extract from Minutes.)

NEW ORLEANS, MONDAY, *January 21st*, 1901.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe.

Absent: Lynn B. Watkins. associate justice.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

This cause came on this day to be heard, whereupon it was
1538 agreed between counsel for both parties that Mr. Justice Watkins, now absent on account of illness, shall take part in the

decision—the cause to be submitted to him on briefs and notes of the oral arguments delivered by counsel. The court then heard argument from Mr. Benjamine Rice Forman, of counsel for plaintiff and appellant, followed by Mr. Ernest B. Kruttschnitt on behalf of the defendant and appellee. And the usual hour for the adjournment of the court having arrived the cause was continued until tomorrow, Tuesday, the 22nd instant, for resumption of argument.

Cause Heard and Submitted.

(Extract from Minutes.)

NEW ORLEANS, TUESDAY, *January 22nd*, 1901.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, associate justices.

Absent: Lynn B. Watkins, associate justice.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

The trial of this cause, continued from yesterday, Monday, the 21st day of January instant, was this day resumed, and having heard further argument from Mr. Ernest B. Kruttschnitt, on behalf of the defendant and appellee, followed by Mr. E. Howard McCaleb on the same side, and from Mr. Walter Guion, attorney general, herein appearing for the plaintiff and appellant, the court took the cause under advisement upon the briefs for both parties and the papers now on file.

Opinion of the Court.

Filed November 6th, 1901.

1539 UNITED STATES OF AMERICA,
State of Louisiana.

Supreme Court of the State of Louisiana.

NEW ORLEANS, MONDAY, *November 6th*, 1901.

The court was duly opened, pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

His honor, Mr. Justice Monroe, pronounced the opinion and judgment of the court in the following case:

1540 Mr. Justice Monroe.

WEDNESDAY, *November 6th*, 1901.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

Appeal from the civil district court, parish of Orleans.

Statement of the Case.

In 1898, the General Assembly adopted two concurrent resolutions, which, by the approval of the governor, became acts Nos. 5 and 150, respectively, of the session of that year. Act No. 5 provides for the appointment of a legislative committee to investigate certain complaints against the New Orleans Water Works Company, and act No. 150, after referring to the majority and minority reports, which had been made by the committee so appointed, and after a recital to the effect that said reports involve intricate questions of law and of fact, which it is impossible, for lack of time, for the General Assembly to determine, provides: "That the whole subject-matter of said reports, together with the testimony and evidence upon which they are based, be respectfully referred to the attorney general of the State, for such action in the premises as he may deem proper." Thereupon, in January, 1899, the attorney general brought this suit, in the name of the State, praying, for the reasons set forth in the petition, that all the franchises of the said water works company be declared forfeited, or, in the alternative, that said company be decreed to have abandoned the monopoly, claimed and enjoyed by it, of furnishing water to the city of New Orleans and its inhabitants.

In the suit thus filed, the city, and the board of liquidation of the city debt intervened, the one, joining in the prayer of the plaintiff, and the other, in that of the defendant. Both interventions were, however, dismissed, by the judge *a quo*, and the board of liquidation has taken no appeal. So that, the case with which we are called upon to deal is that between the State, the city and
1541 the defendant company, upon appeals, taken by the State and city from a judgment rejecting their demands. The charges upon which those demands are predicated are, in substance; that the defendant has not complied with the obligations imposed by its charter with respect to the quality and quantity of water to be furnished; that it has violated certain provisions of said charter concerning the charging of rates for water, the payment of dividends, the sale of its stock, and the borrowing of money; and that it has abused its franchises by unjust discrimination in the rates charged. It is also alleged that the defendant has accepted the benefit of act No. 56 of 1884, and has, thereby, and in any event, abandoned its monopoly. It is further claimed, in argument, and the question was passed on by the judge *a quo*, that the act incorporating the de-

fendant is unconstitutional, because of the failure of its title to disclose the granting of said monopoly.

It appears from the record that, in 1833, the legislature created a corporation called the "Commercial Bank of New Orleans," the main purpose of which, as declared by its charter, though it was also vested with banking privileges, was to supply the city and the people of New Orleans, with "water from the Mississippi river." The capital stock of the corporation was fixed at $3,000,000 (of which the city took $500,000), and the period of its existence at thirty-five years, with a *proviso* to the effect that, at the expiration of its charter, the city should have the right to purchase the plant, at a valuation to be determined by appraisement, and to pay for the same in bonds. The act contemplated that the water to be furnished should be obtained from the Mississippi river, and, in general, that it should be delivered as so obtained, but there was a clause reading, "and the said company shall supply a sufficient quantity of clear, pure and wholesome water for the use of the inhabitants, within the limits aforesaid, at the elevation of fifteen feet, when the same may be required" (acts of 1833, p. 167, sec. 38), from which it appears that the obligation was imposed upon the company to free the water of
1542 the material usually carried by it in suspension when specially so required by consumers. It does not appear, however, that during the thirty-five years of its existence any such requisition was made, or that the company ever furnished any other water, either to the city or its inhabitants, than the water of the river, as taken therefrom. In 1868, upon the expiration of its charter, the tangible property of the company, including lands, buildings, machinery, reservoirs, etc., was appraised, for the purposes of the sale to the city, at $2,000,000, which was, probably, twice or three times its value, but, as the price was paid in bonds which were worth much less than *par*, the profit to vendors was not so great as it would, otherwise, have been. The city, moreover, was a stockholder, to the extent of $500,000., and had to her credit, in the hands of the company, $106,400 of dividends which had been, from time to time, declared, and these two amounts being deducted from the price, she issued her bonds for the balance, amounting to $1,393,600; and, in January 1869, the property was turned over to her and placed under the control of a board of commissioners and a superintendent, appointed by, and acting under the authority of, the mayor and council. During the city's administration, which lasted from January, 1869, to April, 1878, the propriety of improving the quality of the water was constantly recognized, and various reports and suggestions upon the subject were made, but nothing was accomplished. The works were, however, extended, and, when turned over to the defendant now before the court, in April, 1878, consisted, so far as facilities for distributing the water were concerned, of 63 miles 1794 feet of main pipes, of different dimensions. The question of the tariff of charges was also much considered by the city authorities, and, eventually, with more decisive results than followed upon their deliberations concerning the quality of the water. The board of commissioners,

apparently, before the works actually came into the possession of the city, had adopted a schedule, which has since been known as the "Hatch" tariff, no doubt, because promulgated over the signature of F. H. Hatch, as president *pro tempore* of said board, and the charges for water were regulated thereby immediately upon the city's
1543 acquisition of the works, and for some time thereafter. As early as February, 1869, a committee, appointed by the board of assistant aldermen to look into the matter, made a report, in which they said: "Your committee on water rates, to whom was referred a resolution directing them to report a table of rates for water rents, have examined the rates now being charged and collected by the board of commissioners of the water works, and find them entirely too high, and a cause of general complaint among consumers of water. These rates are considerably higher than in many other well-regulated cities." This was followed by a statement showing that in Cincinnati and Louisville the charges for water, furnished in large quantities, and by measurement, was 15 cents per thousand gallons, and in Chicago from 10 to 15 cents per thousand gallons, whilst the rates under the Hatch tariff were from 25 to 40 cents per thousand gallons, for water so furnished. And those rates were quite moderate, as compared to the "flat" rates charged to the small consumers. The board of commissioners, it appears, had endeavored, by the introduction of meters, to equalize this taxation, and, in April, 1869, General Bragg, the then superintendent of the works, reported upon the subject, in part, as follows, to wit: "You are presented herewith with an abstract of the measurements of water delivered in the first quarter of this year by meter. * * * The results are so remarkable and extraordinary as to induce me to ask your special attention and scrutiny. They go to show the entire correctness of the principle on which you established your rates, viz., to make them uniform, and, though the result is not yet satisfactory, the small consumer still paying too much in proportion, you have made a long stride in the right direction. A few more applications of the meter, now being made, will enable you to do full justice to all parties. * * * The large distillery, for instance, which received its water last year at two and nine-tenths cents per thousand gallons, now pays twenty cents for the same supply. *Per contra*, the poor laborer, or widow, who paid ninety cents last year, now gets the same allowance for forty cents.
1544 The large steam bakery, which paid only eighteen cents last year, whilst his small neighbor paid eighty, is now put on an equality with the latter, the one being put up and the other put down to a medium. But the greatest contrast is to be found in the larger establishments. In the three large sugar refineries, one paid four and seven-tenths cents per thousand gallons, another, three and two-tenths cents per thousand gallons, and the third, and largest, one and four-tenths cents per thousand gallons. Here was a discrimination of more than three hundred per cent. against one man in favor of another engaged in the same commercial business."

"Just 15 per cent. of all the water that is paid for is taken now

by five large consumers. Yet they have, heretofore, paid only 2 per cent. of the revenues. * * * The working of the meters, so far, goes to show that still further reduction may hereafter be made in the water rates, but, in justice, that reduction should inure almost entirely to the small consumer, until he is brought nearer an equality with his more fortunate neighbor." The committee appointed by the council, nevertheless, as we have seen, found the Hatch tariff too high, and they recommended the adoption of a tariff, prepared by them, reducing the charges to about the rates established in the cities mentioned. And such a tariff was adopted by the council, but was vetoed by the mayor, and was, in March 1870, passed over the mayor's veto. Very soon after this action had been taken, the president of the board of commissioners addressed a communication to the mayor and council, in which, referring thereto, he said: "As this tariff is to be put in operation when officially promulgated, the board of directors of these works have directed me to call your attention to the serious difficulties which must arise in its operation." He then called attention to the fact that, in December, 1869, a tariff (being the Hatch tariff) had been adopted, for the year 1870, upon the basis of which tariff, all the bills for the ensuing year had been made, and sent out, and that more than one-half of such bills had been paid; and he asked the following questions concerning the proposed new tariff, viz:

1545 "1. Shall it go into effect immediately? 2. Is it to have any retroactive effect? 3. If retroactive, does it work a change of bills not paid only, or does it apply to those already paid? 4. As the money collected under the present tariff had already been appropriated by you to pay interest on the water-works bonds, how can it be refunded?" This communication was submitted to the board of aldermen March 15, 1870, up to which time, it is quite evident, the ordinance establishing the new tariff had not been promulgated. Upon the following day, March 16, 1870, the governor of the State approved the act No. 7 of the extra session of 1870, establishing a new form of government for the city of New Orleans, the concluding section of which provided that it should take effect from and after its passage. And nothing was thereafter done with the tariff ordinance, the evidence in the record being conclusive to the effect that it was never promulgated. Under the new city charter the control of the water works was vested in an "administrator of water works and public buildings," and the record contains the report of the first of the officers so designated, and also of the last. We learn from these reports and from other evidence in the record that during the year 1868 (being the year preceding the acquisition of the water works by the city), there were pumped a total of 2,227,000,000 gallons of water, for which there were received $155,023.75, or an average of about 69.6 cents per 1,000 gallons. What amount of water was pumped during 1869, the first year under the city's administration and under the Hatch tariff, the record does not show, but the receipts amounted to $143,293.00.

During the year ending in May, 1871, there were pumped 2,101,015,000 gallons, for which the city received, under the Hatch tariff, $148,064.91, or an average of about 70 cents per thousand gallons. From that time, although the record does not show the quantity of water pumped during the several succeeding years, the falling off in the receipts indicates that the Hatch tariff was abandoned, and that the charges were being reduced below the rates thereby established. Thus, the receipts for 1872 were $132,626.82;
1546 for 1873, $125,904.17; for 1874, $113,146.61; for 1875, $100,742.01; for 1876, $90,015.67. During the year 1877 (being the last year of the city's administration of the works), there were pumped 2,408,591,230 gallons of water, and we find it stated in the report made by the president of the defendant company to his board of directors that the receipts for the year were $90,148.62, or an average of something over 37 cents per thousand gallons. So that, between the second and the last years of the city's administration, there was a difference of more than 40 per cent. in the average amount received per 1000 gallons of water pumped, and a corresponding difference in the total receipts. That the city, in 1870–'1, collected for all the water pumped by it, including the free water furnished, an average of 70 cents per 1000 gallons, whilst the maximum rates under the Hatch tariff, was forty cents per thousand, is to be accounted for by the fact, that the flat rates charged to the small consumers were enormously in excess of these, predicated upon measurement, charged to the large consumers. Upon the other hand, the fact that the city, in 1870–'1, under the Hatch tariff, received $148,046.91, for a total of 2,101,015,664 gallons of water pumped, whilst, in 1877, she received but $90,148.62, for a total of 2,408,591,230 gallons pumped, amount, almost, to a demonstration that the Hatch tariff had been abandoned. There is, however, further, direct, evidence, to the same effect, which will be more particularly referred to hereafter. The net receipts for water rents, under the city's administration, over and above the expense of maintaining, extending and operating the works, appears to have been devoted to the payment of interest on the bonds which had been issued in liquidation of the purchase price of said works, and the amount required to pay such interest, on all the bonds so issued, was $69,620.00. When, therefore, the total receipts fell to about $90,000.00, as they did in 1876, whilst the expense of maintaining and operating the plant was not far short of $60,000.00, it can readily be understood that the position of the holders of water-works bonds was far from satisfactory. Under these circumstances, it seems not improbable that the General Assembly was induced to take
1547 action in the matter as a measure of relief to the holders of such bonds, though there is no direct evidence to that effect in the record. Be that as it may, in March, 1877, an act was passed (being act No. 33, of 1877) entitled "An act to enable the city of New Orleans to promote the public health and to afford greater security against fire, by the establishment of a cor-

poration, to be called the New Orleans Water Works Company; to authorize the said company to issue bonds for the purpose of extending and improving the said works, and to furnish the inhabitants of New Orleans an adequate supply of pure and wholesome water; to permit the holders of water-works bonds to convert them into stock and to provide for the liquidation of the bonded and floating debt of the city of New Orleans." The provisions of this act, so far as it is necessary to refer to them, are, substantially, as follows, to wit:

Section 1, fixes the capital stock at $2,000,000, divided into 20,000 shares at $100 each.

Section 2, requires that, upon the organization of the company, certificates representing the whole amount of the stock shall be turned over to the city to be disposed of as follows, to wit: (1) $606,600.00 to be retained as the property of the city (this it will be remembered being the amount of the city's interest, upon the basis upon which it purchased the works from the old company); (2) the city further to retain one share of stock for every $100 of water-works bonds which it may have extinguished by payment, exchange, or otherwise; (3) the residue of said stock to be held by the city for the benefit of the holders of said bonds, still outstanding, and exchanged for the same on the basis of one share of full-paid stock for every $100 of bonds, exclusive of the value of the overdue coupons.

Section 3, provides that, whenever the holders of such outstanding bonds, to the amount of $500,000, shall have exchanged the same for stock, a board, consisting of seven directors, shall be elected, of whom, four shall be named by the mayor, and three, elected by the stockholders other than the city, the board thus elected to hold
1548 office until July 1, 1878.

Section 4, provides for the transfer of the works by the city to the new company.

Section 5, confers upon the company the privileges acquired by the city from the Commercial bank, and further provides that said company "shall have, for fifty years from the passage of this act, the exclusive privilege of supplying the city of New Orleans and its inhabitants with water from the Mississippi river, or any other stream, or river, by means of pipes and conduits," authorizes the company to purchase, lease, and enter upon, lands, dig ditches and canals, and construct such dykes, reservoirs and other works "as may be required for securing and carrying a full supply of pure water to said city and its inhabitants" etc., etc.

Section 6, provides, that, upon the first Monday in July, 1878, and annually thereafter, four directors, shall be elected, by all the stockholders, and that the mayor and the administrator of water works and public buildings and the administrator of finance, shall be *ex officio* members of the board.

Section 8, provides, that the capital stock may be increased to two million dollars, for the purpose of enabling the company to improve and extend its works, the new stock to be paid for in cash, or in work.

Section 9, authorizes the company to "borrow money for the purpose of improving and enlarging its works, and increasing the supply of pure water," and, to that end, to issue bonds to an amount not exceeding $2,000,000, secured by mortgage on the property of the company, such bonds to be issued and sold, and such mortgages given, only with the consent of the city council.

Section 10, provides, "that said company shall not declare or pay any dividends except in cash, and then only out of the net *semi*-annual, or annual, receipts, after payment of the expenses of operation and the interest on its bonded debt, nor shall any dividends be declared until the contemplated works are completed and in use."

Section 11, provides, that the city shall have the free use of
1549 water, for the extinguishment of fires and for other public purposes, and that the company "shall place, free of any charge whatever, two hydrants, of the most improved construction, in front of each square where a main pipe shall be laid, from which a sufficient quantity of water may be conveniently drawn for the extinguishment of fires and for other public purposes * * * and, in consideration thereof, the franchises and property of the said New Orleans Water Works Company, used in accordance with this act, shall be exempt from taxation, State, municipal and parochial."

Section 12, confers upon the company the right to expropriate private property and to appropriate, and use, public property.

Section 13, reads: "That the said water works company, immediately after its organization, shall proceed to the erection of new works and pipes, sufficient in capacity to furnish a full and adequate supply of water, to be drawn from the Mississippi river, or elsewhere, as may be judged most expedient; that said new works and pipes shall be commenced within twelve months from the passage of this act, and shall be, year by year, completed, so that, within five years from the passage of this act, they shall be completed so as to give an adequate supply of water to the people of the city of New Orleans, exclusive of the fifth district. If the said work be not done as above prescribed, said corporation shall forfeit all exclusive privileges granted herein, and the city shall have a right to contract with any one else for a supply of water, as above provided and to expropriate the property of the corporation hereby created. After the completion of the new works and pipes, the new company shall, from time to time, as the wants of the population may require, and when the estimated revenue upon the cost of such extension shall equal ten per centum, extend their works throughout the entire limits of the city and suburbs, and any future extension of said city; and any failure of said water works company to comply with this provision shall work a forfeiture of this charter.

* * * * * * *

Section 15, provides, "That the said water works company
1550 "shall have the right to fix the rate of charges for water, pro-
"vided that the net profits of the company shall not exceed ten
"per centum per annum; and shall publish *semi*-annual statements

"of its business and condition; and that the city council shall have "the power to appoint a committee, of not less than five, who shall "have access to the books of said company, and make such extracts "from the same as they may deem necessary, and in case the said "profits shall exceed ten per cent., the city council shall have the "right to require said company to reduce the price of water in such "manner, and in such proportion, that the profits shall not exceed "the above-named rates; and *provided further*, that the rates charged "shall never exceed the rates now paid by" (to) "the city, and in "case said company shall refuse compliance, the demand of said "city may be enforced by the writ of mandamus."

Section 16, makes it a criminal offense to obstruct the company or its agents in conveying water to the city, or to injure the works, or to pollute the water.

Section 17 provides, "That until other works are constructed by "which the present works may be dispensed with the same shall "remain under the control of the city council, and the superintend-"ence thereof remain in the hands of the administrator of water "works and public buildings, but the said company shall be author-"ized to collect the revenues thereof and apply them to the expense "of operating and extending the works." And it is further provided, that the city shall have the right to buy the works of the company at the expiration of its charter.

Section 18 provides, "That nothing in this act shall be so con-"strued as to prevent the city council from granting to any person, "or persons, contiguous to the river, the privilege of laying pipes to "the river, exclusively for his own use or their own use."

This statute failed of its purpose, and, in 1878, the General Assembly passed act No. 43 of that session, entitled "An act relative to the charter of the New Orleans Water Works Company, amending act No. 33 of extra session of 1877, approved March 31, 1877,"

which amends the act of 1877, in the following particulars,
1551 to wit:

Section 1 provides, that four out of the seven directors shall be elected by the stockholders, other than the city.

Section 2, amends and re-enacts section 10 of the act of 1877, so as to make it read: "That said company shall not declare any divi-"dends except in cash, and then only out of the net *semi*-annual, or "annual receipts, after payment of the expenses of operation, and "gradual extension and the interest on its bonded debt."

Section 3, amends section 17 of said act by eliminating the *proviso* whereby the city is authorized to retain control of the present works until other works are constructed.

Section 4, provides, that the delay for beginning the erection of new works, shall begin to run six months after the organization of the company, instead of twelve months after the passage of the act of 1877, as provided in that statute.

Section 5, reads: "That the full, complete and adequate supply "of water, referred to in section 13 of said act, No. 33 of 1877, shall "be so construed as to require a supply of water at the height of not

" less than fifteen feet from the ground, wherever the pipes of the " water works now exist."

Section 6, withdraws the exemption, in so far as State taxation is concerned.

Under the act of 1877, then, as thus amended, the defendant company was organized, and, upon March 30th, 1878, elected its first board of directors. Upon April 9th, following, the city, by notarial act, transferred to it the entire water-works property and plant. It appears from the recitals of this act that the stock of the company was then distributed as follows, to wit:

1. Amount of full paid-stock, subscribed for by the city as per the terms of the act of 1877	$606,600.00
2. Amount issued to the city on account of water-works bonds funded in premium bonds	451,400.00
3. Amount issued to the city for water-works bonds redeemed	111,500.00
1552 4. Amount issued to holders of water-works bonds, in exchange therefor	501,600.00
5. Amount reserved for the benefit of the holders of such bonds, still outstanding	328,900.00
Total	$2,000,000.00

The evidence shows that the bonds in question, and the stock for which they were exchanged, were, at that time, worth 33 cents on the dollar. It further shows that, in April 1879, one year after going into business, the company, upon a basis of $99,717.92, received for water rents, declared a dividend of 2 per cent. upon the par value of its stock, amounting to 6 per cent. on the money actually invested, and that, besides adding largely to the extent and value of its property, it has, from that time to the present, with the exception of one year, paid dividends, amounting, for some years past, to five per cent. per annum, upon the par value of its stock, or about fifteen per cent. on the original investment, and that, as a consequence, the stock has been sold as high as 128, and, in exceptional cases, even higher, and was quoted considerably above *par* during the trial of this case in the district court.

The company, whilst, apparently, holding that it is under no compulsion to furnish clear, or pure, water, at any time during the fifty years of life which it has received, nevertheless, seemed, for a while, to consider that some sort of obligation rested upon it in the premises; and its officers, from time to time, have made reports in which they have recognized the fact that the water, as actually furnished, is unfit for most purposes for which water is used, and have expressed a desire to do something to alleviate the situation. But, for reasons given, which are not always reconcilable, nothing has been accomplished in that direction, and, so far as we are informed by the record, nothing is likely to be accomplished during the life of the defendant's charter. In the first report, of the first president, made to the directors in 1879, he said:

"Although the water delivered to consumers is heavily
1553 "charged with sediment, my first study was devoted to sup-
"plying an abundance, such as it is, leaving the problem of "clear water to be solved after this has been accomplished. The "delivery of filtered water from the Mississippi river is an acknowl-"edged possibility, through subsidence and filtration, but the ex-"pense attendant thereon must deter us from adopting this system "at present."

The following year, according to the report of the same officer, provision had been made for the "abundance" to which he referred in his previous report, but the expense still stood in the way of any action toward improving the quality of the water. And the same condition was reported in 1881, and 1882. A new president was then installed, but, in the meanwhile, a litigation had arisen between the city and the company (involving the question of the liability of the company for taxes, on the one hand, and of the city for its water supply, on the other), the pendency of which seemed to operate as a bar to any steps in the direction of better water, the president reporting upon the subject, in April 1884, as follows, to wit:

"It is feasible and practicable for our company to supply the city "with crystal-clear water. Experiments, conducted by Mr. L. H. "Gardiner, during the past eighteen months, have demonstrated to "the satisfaction of the directory, the practicability of thus clarifying "the water of our river and of thus supplying our people with a water "inferior to none, and superior to must public supplies, from what-"ever source derived. Settling reservoirs adapted to this system "have been designed by Col. Cook, to be erected on grounds already "owned by the company. Their cost, and that of the machinery, etc., "is entirely within the limits of prudent investment for such a pur-"pose. If the relations of the company to the city can be equitably "determined, and the letter and spirit of the charter of the company "fairly construed by the courts, in the now pending litigation, I "shall strongly advocate the adoption of the system for a clear-water "supply above alluded to, to be furnished, of course, at our present "tariff rates. As matters now stand, the city is the beneficiary of
"our company to the extent of about half of the water
1554 "we pump, and wants to exact, additionally, the payment of
"a large assessment for taxes. Pending these conditions, I "do not recommend any improvement or expenditure beyond what "may be necessary for the maintenance of our present system." The litigation thus referred to, eventually, resulted most favorably to the company; for, whilst it was held that the company was liable to the city for taxes, it was also held that the city was liable for all water furnished exceeding in value the amount of such taxes, collected, the result being, that, between 1884 and 1898, the city collected $290,239.86, in taxes, and paid for water, which, by the terms of the company's charter was to have been furnished free, the sum of $931,191.26, making a difference of $640,951.40 in favor of the company, as compared with the result if both parties had conformed to the provisions of the charter as written. Nothing, however, has

since been accomplished by the company in the way of improving the quality of the water furnished by it. Some years after the termination of the litigation above referred to, another corporation, engaged in the business of supplying filter plants, was allowed to make the experiment of pumping Mississippi River water through its filters directly into the defendant's distributing mains, with the understanding that should the experiment demonstrate the practicability of furnishing pure water, in that way, the defendant should pay for the plant erected for its purposes, and should in any case, pay the actual cost of the experiment; and, the attempt proving unsuccessful, the company paid the cost, amounting to $25,000. In the meanwhile, the settling reservoirs, so frequently and confidently reported on, and by means of which, in 1884, the president assured the directors that crystal-clear water could be supplied "within the limits of prudent investment," have never been constructed, and all further effort on the part of the company to furnish pure water has been abandoned, to await the result of experiments which may be made elsewhere.

In this connection, it is perhaps proper that we should state more distinctly the conclusion which we have reached, from the evidence before us, as to the character and availability, for ordinary
1555 purposes, of the water of the Mississippi river, as taken from that stream and supplied to the people of New Orleans by the defendant company. In a report made by the defendant's able superintendent to its president and directors, in April, 1888, that officer said:

"The silt, or suspended matter, carried by the Mississippi river "varies from sixty grains to fifteen hundred grains of solid matter "per gallon. The character of the silt is such as to rapidly cut and "wear the working parts of all machinery." "Silt" is defined to be "mud, or fine earth, deposited from running or standing water." (Webster's International Dict.) It is also shown that the suspended matter referred to consists, in part, or, at times, of "kaoline," a finely divided white clay, and that the result of the admixture of silt, kaoline and water, is, in this instance, a tawny, opaque fluid, which is not only injurious to machinery, but is undesirable for any, and totally unfit for most, domestic uses—even the washing of banquettes or the scrubbing of floors. Upon the other hand, it is conclusively known that, when the material that is carried in suspension is removed, whether by precipitation or filtration, the water becomes clear, and is uncommonly pure and wholesome, the reason therefor being, that for several hundred miles above New Orleans there is no surface drainage, the source from which streams derive most, if not all, of their organic matter, into the Mississippi river, and that such matter, of that description, as may have been swept into it, higher up, is eliminated during the passage of the water over that distance, by constant agitation and attrition in contact with the inorganic substances, carried in suspension, and with the oxygen of the atmosphere. A large percentage of this inorganic material is, however, left behind, and, whilst it is said by some of the witnesses that

the water is none the less palatable and wholesome on that account the weight of the evidence is the other way, and we find nothing in the record to justify the conclusion that any one in New Orleans habitually, drinks river water with its mud in it, or that a fluid that is capable of destroying machinery, made of iron or steel,
1556 can, with impunity, be taken, as a beverage, into the human system. The evidence, taken on behalf of the defendants, shows that, whilst Mississippi River water is highly esteemed by mariners visiting this port, it is not so used, the same witness who testifies that it is considered the "finest in the world for sea-going purposes," also says: "We always used to settle it before stowing it for sea-going purposes." Our conclusion, then, may be summarized in the following excerpt taken from a report made by one of the defendant's presidents to its board of directors, in April, 1882, to wit: "Dr. Joseph Jones, in his able report of 1881, says, that in the "year 1870, samples of the waters of the Mississippi river were sub-"mitted to him for chemical and microscopical analysis, and from "his examination, he concluded that, when freed from superficial "matter, they are of great purity and will compare favorably with "the drinking water supplied to the largest and best regulated "cities."

Upon the question of what was done by the defendant, within the limit of time fixed by its charter, to extend its works and furnish a supply of water, adequate as to quantity, a great deal of testimony was taken, the consideration of which, for reasons which will sufficiently appear hereafter, we pretermit. And we now proceed to an examination of the facts, as disclosed by the record, touching the rates charged by the defendant and its alleged discrimination between consumers.

We have seen that the ordinance, passed by the city council in 1870, proposing lower rates than those established by the Hatch tariff was never promulgated, and we have also seen that it is practically demonstrated that the Hatch tariff was, nevertheless, abandoned by the city, and a much lower rate adopted, long before the transfer of the water works to the defendant. It is not improbable that the tariff, as thus adopted and enforced by the city, during the last few years of its administration of the works, conformed, in the main, though not altogether, to that embodied in the unpromulgated ordinance of
1557 1870; but, of this we cannot be sure, as the most important books, showing the charges and collections made by the city, have been lost; the defendant, to whom they were delivered, with the works, and who had possession of them for several years thereafter, being now unable to account for them. Taking the evidence as we find it, it appears that, during the first four years of the defendant's administration, the proviso contained in section 15 of the act of 1877, which reads: "*And provided further*, that the rates charged shall never exceed those now paid by" (to) "the city," etc., was construed to mean that the company should not charge more for water than was charged by the city, before, and at the date of, the

transfer of the works; and during that period, the charges were regulated accordingly. Such is the positive, uncontradicted testimony of the gentleman who, during those years, occupied the position of president of the defendant company. And his testimony is corroborated by the figures, which we find in the record, showing the quantity of water pumped and the receipts from the sale of the same, as compared to the pumpage and receipts under the city administration. We will not go over these figures in detail. It is sufficient to say that the average receipts from water rates during the last five years of the city's administration were $98,513.23, and the average receipts during the following four years (being the first four years of the company's administration) were $93,601.95, whilst the evidence points strongly to the conclusion that the company pumped more water during that time than had been pumped by the city. The record does not show how much was pumped during the years 1874, 1875 and 1876, but it appears, as has, heretofore, been stated, that, in 1877, the city pumped 2,408,591,230 gallons, for which she received $90,148.62; and it also appears that during the year ending in April, 1882 (being the last year of the company's first four years of administration), there were pumped 2,948,347,134 gallons for which the company received $99,930.70, the average, per thousand gallons, received by the city being 37.4 cents, and the average received by the company being 33.8 cents. That the company received less than the city, though pumping more water, is accounted for by the fact that there had been a large
1558 waste, resulting from leaks in the reservoirs, amounting, according to the estimate of the president of the company, to 600,000 gallons per day. The financial results thus obtained were unsatisfactory to the stockholders, who, in 1882, elected a new president. And the evidence justifies the conclusion that the company, then, deliberately, abandoned the tariff of charges for water which had been enforced by the city, and by which it had, theretofore, regulated its own charges, and established a new tariff, according to which the rates were much higher. There was little or no noise made about this change of policy, but the results were soon to speak, and have spoken, for themselves. During the year 1883, the company pumped 2,900,549,214 gallons of water, as against 2,948,347,134 gallons the year before, and received $111,794.19 as against $99,930.70, received the year before; thus pumping nearly 50,000,000 gallons less water, and receiving nearly $12,000 more for it. And the president, in his annual report, used the following language, to wit:

"The earnest attention of the directory has been engaged in plans "for an improvement in the character of the water we furnish; to "an improvement and reorganization of the system of records and "general conduct of current business; *to the maintenance of a proper "and reasonable advance in the great majority of the assessments*, and "their equalization. * * *

"The assessments, (which seem to have been governed by no "fixed rule), when compared with the tariff, have been found too

"low. Correction, increase and equalization have created more or "less dissatisfaction. *An increase has been established, however, and "the company is still far within the limits of its authorized tariff.*" (Italics by the court.)

In April, 1884, the president reported that he had caused the premises of each consumer to be inspected, and he, thereupon, proceeded, as follows, to wit:

1559 "The systematic inspection alluded to gave data and basis "for a material increase in the general assessment. Special "care has been taken to have all the assessments fall within the "limits of our authorized tariff, and at the same time bear an equi-"table relation to each other in the various classes of water-takers. "* * * The people of New Orleans have proved willing, after a "little natural remonstrance, to pay a fair price for water supplied "by the company, as is shown by the fact that the collected revenue "is $17,000 above that of the preceding year."

During the year to which this report referred, the company pumped 2,759,022,884 gallons of water for which it received $127,228.50, being an average of 45.7 cents per thousand gallons. During the year ending in April, 1885, the company pumped a total of 2,442,611,478 gallons, for which it received, from private consumers, $129,876.08, and from the city of New Orleans, $17,085.60. Averaging the total amount of water pumped by the amount received from private consumers, only, and we find the charge to have been 53 cents per thousand gallons; whilst, if we include in the calculation the amount received from the city, the average charge per thousand gallons was 59 cents. During the year ending in April, 1886, the company pumped 2,169,399,232 gallons of water, for which it received, from private consumers, $123,228.73, and from the city, $64,239.60. Averaging the total amount of water by the amount received from private consumers, only, and the charge amounted to 56 cents per thousand gallons, and if the amount received from the city be included, the average charge per thousand gallons, was 86 cents. It will thus be seen that, within the four years following its change in policy, the company, upon the face of the reports made by the president to its board of directors, had raised the average charge for water, per 1000 gallons, about 50 per cent. above the rates previously charged by the city, in 1877, and that, including the amount received from the city, the company received an average of nearly two and a half times as much per thousand gallons, for water pumped in 1886, as the city

1560 received in 1877. During some later years, a comparison of the gross pumpage with the gross receipts may not, always, disclose the same high average, but this was not because the charge was not made, but for other reasons; as, for instance, in January, 1892, the superintendent reported that the record showed that the company pumped 100,000,000 of gallons more in November 1891 than in November 1888, whereas the extra quantity was neither pumped nor delivered, but was registered by reason of the defective condition, and "slippage," of the pumps. When that condition

began, and how long it lasted, it would be useless to inquire. The facts which have been stated are sufficient, more particularly when considered in connection with the testimony to which we will refer a little later. What the president of the defendant company meant when he stated that the charges for water, established and enforced by the company, were "within the limits of its authorized tariff," the record does not enable us to say. It is quite certain that those charges did not, and do not, fall within the limits of the tariff established by the city, and in force when the charter of the company was adopted, as is shown by the books of the city which were delivered to the company, and served as its guide in the matter of its charges during the first four years of its existence; and if any other tariff was authorized, evidence of that fact has not been produced. The "dissatisfaction," to which the first report refers, resulted in something more than "the little natural remonstrance," mentioned in the second. Isaac Levy, a rice miller, had been paying $150, *per annum*, for his supply of water, under the city administration, and his rate had been increased to $175, upon the accession of the company, to which he made no objection, as the latter amount was within the tariff established by the city. In 1883, however, the company, under its new administration, increased the charge to $400, whereupon Levy filed suit, complaining that the charge was illegal and praying that the company be compelled to accept the amount to which it was entitled, and that it be injoined, in the meanwhile, from cutting off his supply of water. And it was finally decided, in 1886, that the company was entitled to charge no
1561 higher rate than the city had charged upon March 31st, 1877 (the date of the approval of the act No. 33 of that year); that the rate then charged by the city to consumers such as Levy, was fifteen cents per thousand gallons, and that the amount demanded by the company was in excess of that rate and therefore unauthorized and illegal. State *ex rel.* Water Works Co. *vs.* Levy, 38 Ann. 25. The judgment thus rendered was affirmed in 1887 in the case of Ernst *vs.* Water Works Co., 39 Ann. 550, and suits brought by several other litigants, and not appealed, appear to have been settled upon the same basis. Upon the trial of the Levy case the president of the company, who had administered its affairs during the first four years, testified that during that time the rates charged by the company had been regulated by the rates as he found them in the books of the city; and that the rate charged by the city for water furnished in quantity and by measurement was 15 cents per 1000 gallons, and he referred the counsel of the company to the books of the city, which were then in the possession of the company, in verification of his statement. Whether the books were then produced in court we are unable to say from the record now before us. If they were the result shows that their contents sustained the testimony of the witness. If they were not it is fair to presume that it was because the company, though in possession of them, did not find it to its advantage to produce them. Since that time the books have been lost, and as the memory of the witness who then testified as to their

contents has become somewhat uncertain after the lapse of years, it would be difficult, perhaps impossible now, to prove what rates were charged by the city in 1877, and the defendant would have a wide latitude in the matter of its charges were it not that the testimony given in the Levy case has been preserved and affirmed by the witness who gave it. After having had its day in court in the several cases referred to the defendant apparently acquiesced in the result reached, and as late as November, 1890, the superintendent in his monthly report to the president and directors, referring to a controversy which had arisen with a large consumer, informed them that he had
1562 consulted the attorney of the company as to the rate per thousand gallons that could be charged, and that, quoting the language, "he says that 15 cents per 1000 gallons having been "fixed by the supreme court as the legal rate to charge consumers, "this is the rate under the circumstances. I have rendered a bill "in accordance, etc." He also, in the same communication, recommended that certain other consumers, whom he names, should be charged at the same rate. But there were, and are, still other large consumers who were, and are, charged rates greatly in excess of that obtained by those with whom the controversy had arisen, rates in conformity to a tariff published by the company itself, and to which its president, presumably, referred, in speaking of its "authorized" tariff, but which fixes 15 cents per 1000 gallons as the minimum rate to large consumers, taking water by measurement, whilst the maximum rate to such consumers is 35 cents per 1000 gallons. These rates conform neither to the Hatch tariff nor to the tariff contained in the unpromulgated ordinance of 1870, and they are largely in excess of the tariff enforced by the city in 1877; and, so far as this record discloses, there is no other authority for them than that of the company itself, exercised in plain disregard of two decisions of this court, rendered in cases to which the company was a party, to the effect that they are unauthorized and illegal. Beyond this, we find, in the pamphlet containing the tariff thus published by the company, the following rules prescribed to consumers of water, to wit:

"Meters will be of such make and size as will be approved by "the water works company, and will be furnished and maintained "by the consumer. * * * The furnishing of water through "meters will be at the option of the water works company." We also find that such meters as are permitted and approved by the water works company, whilst quite expensive (those of medium size costing in the neighborhood of $40), are rapidly cut and worn out by the action of the silt-bearing water, and that there is, consequently, great
1563 irregularity in their operation, so that one consumer, whose meter registers 1000 cubic feet, is charged with 7500 gallons of water, whilst another, whose meter registers the same quantity, may be charged with from 10,000 to 90,000 gallons, or any other quantity. And this, too, at the rate of 35 or 40 cents per thousand gallons, as against 15 cents per thousand gallons charged to the

comsumer whose meter measured only seven and a half gallons to the cubic foot. Thus, by way of illustration, a particular consumer, during a period of twenty-seven months, using an average of 730,000 gallons of water per month, was charged at the uniform rate of 15 cents per 1000 gallons, according to a meter which appears never to have measured more than seven and a half gallons to the cubic foot registered by it. And, at the end of that period, a flat rate of $700 per year was agreed upon, although, according to the minimum rate, by meter measurement, with a meter which allowed only the minimum quantity of water per registered cubic foot to pass through, the charge should have been $1,314. Another consumer, who during the ten months beginning February 1st, and ending November 30th, 1898, used an average of 2868 gallons per month, was charged, during four months, 40 cents, and during the other six months 35 cents per 1000 gallons, according to a meter which appears never to have allowed less than ten gallons to the cubic foot, registered by it, to pass through, and from that up to 28 gallons to the cubic foot. Again, one proprietor of a livery stable is charged a uniform rate of 20 cents per 1000 gallons, whilst another, doing about the same business, and not far distant, is never charged less than 25 cents per 1000 gallons, and from that to 45 cents per 1000 gallons; and still another, doing a somewhat smaller business, though taking his water by meter measurement, is charged 35 cents and 40 cents per 1000 gallons, and, all this, although the maximum charge for water so taken, even according to the defendant's published tariff, is 35 cents per 1000 gallons, to consumers using from 100 to 500 gallons per day. The evidence is equally conclusive to the effect that the flat rates, charged to the smaller consumers, have been advanced and maintained, by the company, in excess of
1564 those exacted by the city during the last year of its administration.

Opinion.

The foregoing statement includes most of the facts, disclosed by the record, that we find necessary for the decision of the case. Others, which may be pertinent, will be incorporated in this opinion. Many facts have been pretermitted, because, if not wholly immaterial, they are, at least, unnecessary, to the particular issues upon which the case is to be decided. We have stated, in detail, the circumstances under which the defendant company came into existence, and the result of its establishment, regarded as an investment, in order that its exact relation to the State of Louisiana and to the city and people of New Orleans may appear fairly upon the record, inasmuch as the State, the city, the legislative committee which reported the resolution, under the authority of which this suit was brought, and the public officer by whom the suit was brought, have been made the subjects of criticism, in one of the printed arguments presented on behalf of the defendant, which appears to us to be wholly undeserved.

It will be seen from the statement, as thus made, that upon the organization of the defendant company, the city of New Orleans held $1,169,500, out of a total of $1,671,000 of its stock, actually issued, being also a majority of all the stock called for by its charter, but consented, nevertheless, that the control of the corporation should be vested in the minority stockholders, representing, at that time, but $501,600 of the stock; and that, not only was the entire water-works plant, which the city had acquired from the Commercial bank, together with the extensions and improvements which had been made during the city's administration, turned over to the corporation so controlled, but that there were included grants of power, from the State, which gave to that plant its principal value, viz: the power to operate it in a corporate capacity; to expropriate private, and to appropriate and use, public, property, as the business of the company might require; the monopoly with respect to the water to be supplied to the city, and people, of New Orleans, for fifty years; and other
1565 powers and privileges, which need not be particularized. So that, the holders of the bonds, which had been given in payment for the bare plant, after the franchises necessary to its operation had expired by limitation, were enabled, with the same bonds, and without additional cost, to re-acquire all the property sold by them, somewhat enlarged and extended, together with privileges worth far more than the property itself. The bonds in question, and the stock for which they were exchanged, were, at that time, worth thirty-three cents on the dollar. When, therefore, at the end of the first year, the company declared a dividend of 2 per cent. it represented 6 per cent. upon the money actually invested; and the dividends of five per cent., which have been declared of late years, have represented fifteen per cent. upon that original investment, and have been paid with such regularity that the stock has commanded a premium, exceeding one-fourth of its par value. The owner of the stock, acquired according to the terms of, what is called a "hard bargain," driven by a sovereign State, descending to the level of "a common trader," has therefore gained, up to the present time, nearly three times the amount of his investment, by reason of its appreciation in value, and, almost, if not quite, as much more, in the meanwhile, in the way of dividends, declared from year to year.

There are, no doubt, many of the present stockholders, perhaps a majority of them, who have acquired their holdings by purchases in the market, who have paid the ruling price for their stock, and who have realized but a fair profit upon the money invested; and our remarks in this connection, are intended for no other purpose than to show that the company was not driven by the State into making a bargain, and that the bargain as originally entered into was not a hard one, as is charged.

In 1882 the city of New Orleans sued for taxes, from the payment of which, under section 4, of the act of 1877, the defendant was declared to be exempt; and the defendant, by way of reconvention, prayed judgment for the value of the water furnished to the city,

which the same section declared should be furnished free of charge.

It was decided by this court that the exemption from taxa-
1566 tion was unconstitutional, but that the city should pay for its water, up to an amount equal to the taxes recovered, leaving upon the defendant, however, the obligation to furnish the water required, exceeding that amount in value, free of charge. City of New Orleans *vs.* Water Works Company, 36 Ann. 432.

Thereafter, the General Assembly passed an act (No. 56 of 1884) requiring the city to pay for all the water obtained by it in any year for which it might claim and recover taxes from the company. And a contract, made pursuant to that legislation, having been sustained by judgment of this court (Conery *et als. vs.* Water Works Co., *et als.*, 41 Ann. 913), the city has since then, up to 1898, paid a total of over $900,000 for its water supply, as against less than $300,000 received for taxes. It was, moreover, held that the act of 1884 was not passed for the benefit of the defendant, but was an act intended to regulate the conduct of the city of New Orleans in certain respects, and that, when the city, agreeably to the terms thereof, agreed to pay for water, to which it was, under the previous decision of this court, entitled, free of charge, there was no such acceptance of benefit or waiver of obligation, on the part of the defendant, as to bring it within the provisions of the constitution, and thereby deprive it of its monopoly, or any other franchise, which it could not, under such circumstances, have continued to enjoy.

We now proceed to inquire whether the powers and privileges conferred on the defendant, and from which it has derived such advantage, have been exercised in conformity to the conditions of the grant. It is part of the statement of facts, which precedes this opinion, that the water which the defendant furnishes and which it claims the right to furnish, at its option, whilst susceptible of clarification and purification, is neither clear nor pure. That fact has not only been recognized by the defendant and its officers, and by public officials and analytical chemists, but by the State of Louisiana in the very legislation under which the water is now supplied, to the exclusion of any better and purer water to some
1567 300,000 of her citizens. The act of 1877, within which, as amended by the act of 1878, the defendant lives and moves, as we have seen, is entitled "An act to enable the city of New "Orleans to promote the public health, and to afford greater security "against fire, by the establishment of a corporation to be called "the New Orleans Water Works Company;" to authorize the "said company to issue bonds, for the purpose of extending and "improving the said works, and to furnish the inhabitants of New "Orleans an adequate supply of pure and wholesome water" etc.

This language plainly indicates that the attention of the lawmakers was attracted to the question of the quality of the water to be furnished, and that the act to be passed would deal with that subject. It was no secret to them that the city of New Orleans had, for thirty-five years, and more, been supplied with the water of the

Mississippi river, as taken therefrom, and, if the proposed legislation contemplated only a continuation of the same supply the descriptive terms used were not only unnecessary, but inapplicable. But that such was not the purpose, is evident from the fact that the act confers upon the company the authority to obtain water elsewhere than from the Mississippi river, whereas its predecessor, the Commercial bank, was restricted to that stream. Moreover, section 5, confers upon the corporation the power "to construct, dig, or cause to be opened, any canals or ditches, whatever, for the purpose of conducting the water of the *rivers* from any place or places it may deem fit, and to raise and construct such dykes, mounds, reservoirs as may be required for securing and carrying a full supply of pure water to said city and its inhabitants," etc. And section 9, provides that: "The board of directors shall have power * * * to borrow money for the purpose of improving and enlarging its works and increasing the supply of pure water; and to accomplish this, the said board are hereby authorized to issue the bonds of the company" etc.

This use of the word "rivers," and of the adjective "pure;" the fact that the purpose expressed by the words, "improving
1568 and enlarging the works, and increasing the supply of pure water," is immediately afterwards referred to as "this purpose," rather than "these purposes," taken in connection with the title of the act, leaves no doubt that the law-makers contemplated that the corporation which they were creating would, at some time or another, either purify the Mississippi River water, if it elected to obtain its supply from that stream, or else should bring water, which required no purification, from some other stream. The proposition that, whilst recognizing the fact that Mississippi River water, in its normal state, is not pure, they should nevertheless have undertaken to restrict a community, consisting of some hundred of thousands of persons, to its use, as their main supply, for a period of fifty years, and should have undertaken to make a law prohibiting such community from obtaining a supply elsewhere during that period, seems inconceivable, and the argument that, notwithstanding that "pure water" is mentioned in both the title and the context of defendant's legislative charter, it is intended that it should be optional with the defendant, during the long period covered by that charter, to furnish either pure or impure wate, as its interest may suggest, loses much of its force, when we consider, that if the word "pure" had been entirely omitted, the right of the defendant to furnish water of that description would have been unquestionable. But, let us suppose that the contention on behalf of the defendant, on this point, is well founded, and that it was the deliberate purpose of the law-makers of the last generation to restrict the people of New Orleans for fifty years (before the expiration of which period the population may increase to half a million), to the use of unpurified water, as their main supply, at the option of a private business corporation; let us suppose that, so long as the corporation fulfills its obligations under the contract, which is said to result from this law, the com-

munity affected is without remedy, and must deny itself all water, except that furnished by said corporation, at least, it must be conceded that no such result follows if the corporation disregards
1569 alike the obligations and the prohibitions of the contract, from which, alone, it *could* follow.

It is not claimed that the defendant company was granted the monopoly in question, with its other privileges in derogation of common right, entirely without conditions. And if the law-makers intended that it should enjoy that monopoly and those other privileges they also intended that it should observe the conditions upon which they were granted. But, one of the conditions was, that the company should charge no more for the water furnished by it than was paid to the city upon March 31, 1877. The charter of the company, under which its monopoly and all other franchises are enjoyed, contains a plain, positive prohibition to that effect. And yet the evidence in this record shows that the company, from 1883 up to the present time, has grossly, deliberately and persistently, violated that prohibition, by the establishment and enforcement of a tariff of charges for water greatly in excess of that thus authorized; and not only so, but, whilst enforcing its excessive, unauthorized, and illegal charges, has unjustly discriminated between citizens and other corporations with respect to their supply of an element and a commodity, equally necessary to human existence and to, human affairs. This violation of the law and of its charter obligations is not one the effect of which is confined to the company, as a business entity, or to the investment of its stockholders. It inures to their pecuniary advantage; but in its operation, it oppresses, and has oppressed, and will continue, if allowed to continue at all, in perhaps even greater degree, to oppress an absolutely dependent public. In view of these facts, the law demands that the privileges and corporate life thus abused should be withdrawn. And it requires no other law, and no other construction of law, than such as is found in, and authorized by, the civil code of this State, to reach such a conclusion.

C. C. arts. 14, 18, 447; Atchafalaya Board *vs.* Dawson, 13 La. 497; State *vs.* New Orleans Gas Light & Banking Co. 2 R. 529. But the same law prevails in other jurisdictions, and the conclusion stated is sustained as well by the authorities furnished on
1570 behalf of the defendant as by those furnished on behalf of the plaintiff.

"A private corporation, created by the legislature, may lose its "franchises by a misuser, or a non-user, of them; and they may "be resumed by the government, under a judicial judgment, upon a "*quo warranto* to ascertain and enforce the forfeiture. This is the "common law of the land, and is a tacit condition annexed to the "creation of every such corporation." Territt *vs.* Taylor, 9 Cranch 51.

Morawetz on Private Corporations, 1st ed. par. 640.

"It has accordingly been held, in various cases, that, if a corporation has assumed the performance of duties for the benefit of the public, generally, it cannot neglect the performance of those duties without incurring a forfeiture of its franchises."

"If a duty is prescribed by the charter of a corporation in express terms it seems that the company will hold its franchises upon the condition that the duty shall be performed; and, hence an omission to perform will constitute a sufficient ground for declaring a forfeiture of the company's franchises."

"Any act of a corporation which is forbidden by its charter, or "by a general rule of law, and, strictly, every act which the charter "does not expressly or impliedly authorize the corporation to per- "form, is unlawful; and if the doing of such act is an injury to the "public, it may be sufficient ground for declaring a forfeiture of the "corporate franchises." Morawetz, pars. 643–'5.

In New York it has been held to be sufficient ground to justify the forfeiture of the charter of an insurance company that such company had undertaken to carry on banking operations in violation of a general law prohibiting unauthorized banking. People *vs.* Utica Ins. Co., 15 Johns. 358.

In Pennsylvania it has been held that where a bank was prohibited by its charter from making loans at a greater rate of discount than one-half of one per centum, for thirty days, and from dealing in promissory notes, and it was shown that this provision had been wilfully and repeatedly violated, there was sufficient cause for declar-
1571 ing the charter forfeited. The court, through the chief justice, said:

"It may be affirmed, as a general principle, that where there "has been a misuser or a non-user, in regard to matters which are "of the essence of the contract between the corporation and the "State, and the acts or omissions complained of have been wilful "and repeated, they constitute a just ground for forfeiture." Com. *vs.* Commercial Bank, 28 Pa. St. 389.

In State *vs.* Commercial Bank of Manchester, 33 Miss. 497, the court, referring to a restriction in the charter of a bank with respect to the charging of interest said: "The same law which gave her "existence imposed the restriction and prescribed to her certain "rules of action, which must be regarded as so many conditions "annexed to the grant, and as tantamount to saying to the bank: "'You are now endowed with certain rights and privileges which "you can exercise and enjoy during the period specified in the char- "ter, upon condition that you act according to the rules therein "prescribed.' The rule prescribed as applicable to the case before "us, is, that the bank shall not take exceeding seven per cent. per "annum discount on notes having less than twelve months to run "to maturity. This rule is the law which must govern the case "before us, and the replication alleging a course of business, per- "severed in for at least six months, in palpable violation of this rule, "presents, in our opinion, a good cause for forfeiture."

It is said, however, on behalf of the defendant, that according to the terms of the charter, the only remedy in the case presented is to be found in that provision which authorizes the city of New Orleans to proceed by mandamus to enforce a reduction of charges. We do not so construe the law. Section 15 of the act of 1877 reads: "That

the water works company shall have the right to fix the rates for water; provided, that the net profits of the company shall not exceed ten per cent. per annum, and shall publish annual statements of its business and condition; and that the city council shall have the power to appoint a committee, of not less that five, who shall have
1572 access to the books of said company, and make such extracts from the same as they may deem necessary; and, in case the profit shall exceed ten per cent., the city council shall have the right to require said company to reduce the price of water in such manner and in such proportion that the profits shall never exceed the above-named rates; and provided further, that the rates charged shall never exceed those now paid by" (to) "the city, and in case said company shall refuse compliance, the demand of said city may be enforced by mandamus." This section of the law is somewhat inartificially drawn, but we are of opinion that a reasonable construction requires that the "demand," which the city is authorized to enforce, by mandamus, should be held to relate back to the demand which the city had been previously authorized to *make*, to wit: the demand for a general reduction in the price of water whenever the profits of the company exceed ten per centum per annum. It would be inadmissible to suppose that the individual consumer, who might be the victim of extortion practiced by the company, was to be left without remedy, and absurd to suppose that his remedy was to consist of mandamus proceeding which the city of New Orleans was authorized, but not compelled, to bring under the condition stated in the act. Nor does the fact that such consumers might resist overcharge against them, and have actually and successfully done so, affect the rights and obligations of the State in the premises.

It is also said, that, whilst the petition alleges that the defendant has been guilty of charging more than was charged by the city during the period immediately preceding the transfer of the works, it is further also alleged that the tariff then enforced by the city was that embodied in the ordinance adopted in 1870, and that, as said ordinance was never promulgated, it follows that the action must fail, on this ground. We do not concur in this reasoning. The first, and material, proposition of the State is, that the charges enforced by the defendant have exceeded those which were
1573 enforced by the city, and this proposition has been established by conclusive evidence. Beyond that, it is perfectly immaterial whether the charges enforced by the city corresponded to those embodied in the unpromulgated ordinance or not. The defendant was afforded the amplest opportunity, on the trial of this case, and it has had ample opportunity heretofore, in the Levy and Ernest cases, and in several other cases, to show that the tariff enforced by the city at the date of the transfer of the works, and in March 1877, was other than as testified to by their ex-president; and if it was unable to make such proof whilst it had the books of the city in its possession, there is no reason to suppose that it can do so now, since those books have disappeared. Holding these views, we find it unnecessary to consider the other questions presented.

For these reasons, it is ordered, adjudged and decreed that the judgment appealed from be annulled, avoided and reversed, and it is now ordered, adjudged and decreed that there be judgment in favor of the plaintiff, The State of Louisiana, and against the defendant, The New Orleans Water Works Company, decreeing the forfeiture of the charter and of all the franchises heretofore conferred upon said defendant corporation. It is further ordered that said defendant pay the costs of these proceedings.

Breaux, J., concurs in the decree. Provosty, J., takes no part the case having been argued and submitted prior to his appointment on this bench.

Final Judgment.

(Extract from Minutes.)

NEW ORLEANS, WEDNESDAY, *November 6th*, 1901.

The court was duly opened, pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice. Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

His honor, Mr. Justice Monroe, pronounced the opinion and judgment of the court in the following case:

1574 STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

Appeal from the civil district court, parish of Orleans.

For the reasons assigned it is ordered, adjudged and decreed that the judgment appealed from be annulled, avoided and reversed, and it is now ordered, adjudged and decreed that there be judgment in favor of the plaintiff, The State of Louisiana, and against the defendant, The New Orleans Water Works Company, decreeing the forfeiture of the charter and of all the franchises heretofore conferred upon said defendant corporation. It is further ordered that said defendant pay the costs of these proceedings. (Breaux J. concurs in the decree. Provosty J. takes no part, the case having been argued and submitted prior to his appointment on this bench.)

Motion and Prayer for Amendment of Judgment.

Filed November 16th, 1901.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

In the honorable the supreme court of the State of Louisiana:

Now into this honorable court, through the undersigned the attorney general of the State of Louisiana, comes plaintiff, The State of

Louisiana, and on suggesting to the court that in its judgment rendered in the above numbered and entitled cause on the 6th November 1901, decreeing the forfeiture of the charter and of all the franchises which had been conferred upon the defendant, this
1575 honorable court did not, in reversing the judgment rendered by the Honorable George H. Theard, judge of the civil district court of the State of Louisiana and parish of Orleans, div. "E," order specifically that a receiver or liquidator be appointed for the purpose of taking possession of the property, rights and franchises of the defendant in order to liquidate and wind up its business and affairs; and on further suggesting that, as the honorable the judge of the civil district court aforesaid may not be advised as to whether, in the opinion of this honorable court, the liquidation and winding up of the business and affairs of said defendant should be had through a liquidator appointed by the governor of the State, under the provisions of section 731 of the Revised Statutes of the State, or through a receiver appointed by the honorable the judge of the civil district court aforesaid, under the provisions of act No. 26 of the General Assembly of the State of Louisiana, approved July 2nd, 1900, in order to carry out, execute and enforce the judgment of forfeiture, aforesaid, rendered by this honorable court; and on further suggesting that a liquidation, settlement and winding up of the business and affairs of said defendant corporation must and does follow the judgment of forfeiture, aforesaid, as a legal consequence, as the means provided by law for the execution of said judgment by the civil district court, aforesaid, and which should be had as speedily as possible for the preservation and protection of the rights of all persons interested and concerned, and for the proper administration of justice, and in order furthermore that said judgment may be enforced and executed under the direction and supervision of the civil district court by a liquidation and winding up of the business and affairs of said defendant, mover now prays that the said judgment rendered by this honorable court, on the 6th November 1901, be so amended as to order the honorable judge of the civil district court, aforesaid, to proceed to the liquidation, settlement and winding up of the business and affairs of said defendant, either through a liquidator to be appointed by the governor of this State, under the provisions of No. 731 of the Revised Statutes of the State, or through a receiver appointed by the honorable judge, aforesaid, under the provisions of act No. 26 of 1900, as may be determined by this honorable court, said receiver or liquidator to take possession of all the property, rights, franchises and business of the defendant in order to liquidate and wind up the business and affairs of defendant.

And for such further orders and relief in the premises as this honorable court may grant.

(Signed) WALTER GUION,
Attorney General.

1576 *Petition for Rehearing.*

Filed November 19th, 1901.

1576*a* Supreme Court of Louisiana.

STATE OF LOUISIANA
versus
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

To the honorable the chief justice and associate justices of the supreme court of the State of Louisiana:

The petition of The New Orleans Water Works Company, the defendant and appellee in the above-entitled cause, respectfully represents:

That your petitioner is informed and believes that there is error to its prejudice in the final judgment heretofore rendered by this honorable court in this cause, and especially in the particulars hereinafter set forth, and petitioner prays that a rehearing be granted to it herein by reason of said errors, which are now set forth in detail, as follows, to wit:

I.

That this honorable court erred in the matter of the admission and appreciation of evidence in this cause in the particulars following, to wit:

(*a*.) In the statement that "the most important books, showing the charges and collections made by the city, have been lost; the defendant, to whom they were delivered with the works, and who had possession of them for several years thereafter, being now unable to account for them."

That said statement is incorrect in this, that the books showing the collections of water rents by the city, five in number, marked respectively A, B, C, D and E, were produced, filed and are now of record in this cause, and in this honorable court, and that in addition thereto forty-two hydrant books of said city were produced, marked respectively 1 to 42, inclusive, and which books show minutely and in detail the prices charged and collected by the city of New Orleans for water rents at and prior to the time when said works were delivered by said city to said company; and that the book or books not produced, and the non-production of which is criticised by this honorable court, are books which were not in the possession of the defendant at the time when called for, or at any time since; but the custody and possession of which is by records offered in evidence by plaintiff itself, shown not to have been in defendant, and shown to have been filed in the office of the clerk of this honorable court more than fifteen years ago; all of which with other necessary particulars will be shown in greater detail in the brief to be filed in support of this application for a rehearing.

(*b.*) The court erred in admitting or using the alleged testimony of Edward Toby, alleged to have been given in the case of Isaac Levy *vs.* The New Orleans Water Works Company, which alleged testimony was admitted over defendant's objection, and a bill of exceptions reserved to the admission of the same; and that the court also erred as to the weight and effect to be given to said evidence, if admitted.

1576*b* (*c.*) The court erred in using as evidence in this cause the records in the cases of Isaac Levy and of others against this defendant, for the reason that the using of the records in said causes was objected to as being *res inter alios acta* and inadmissible in evidence, and admitted over objection, and to which admission exceptions were noted and reserved; and that the *evidence* adduced in said causes was neither offered nor admitted in evidence on the trial of this cause.

II.

That this honorable court erred as to its finding of the facts in this case in the matters following, and in others, viz:

(*a.*) In multiplying by ten (through clerical error) the average amounts realized by the defendant from the sale of water by it pumped from the Mississippi river, and distributed through its mains to the people of the city of New Orleans, which clerical error is vitally important because apparently showing a revenue derived by defendant from its sales of water ten times greater in the average per gallon than justified by the evidence, even as construed by the court.

(*b.*) In finding that the reduction in the revenues derived by the city from the water works whilst the same were under the administration of the city of New Orleans furnished proof of a reduction in rates charged to consumers of water; whereas, as a matter of fact, said reduction in revenue did result from waste, greater consumption by the city, and because of a system of favoritism in the reduction or non-collection of assessments on account of political or other influence, as shown of record herein.

(*c.*) That even if it be admitted that the rate of charges was reduced by the city, still it is not shown what said reduction was.

(*d.*) In finding that the rates charged by the defendant company are or were at any time greater than any city tariff, or alleged city tariff, either the so-called Hatch tariff, or the alleged tariff of 1870; and that there is no evidence in the record showing or tending to support said finding.

(*e.*) In applying the vague term, "large consumers," not only to persons similarly situated with Isaac Levy, and the other rice millers who sued for a reduction of water rates in 1884 or thereabouts, but to consumers using far less water than said Levy and others; and in failing to find what was meant by a "large consumer" and who was entitled to be considered a "large consumer."

(*f.*) In finding that the defendant company has in any matter or thing whatever failed in its charter obligation, as to rates or tariffs

charged for water supplied by it to the city of New Orleans or her inhabitants.

III.

That this honorable court erred in applying the law to the facts by it in this case found in the particulars following, and in others, to wit:

(*a.*) In holding that the State, without proof of the existence of any tariff established by the city of New Orleans during her administration of the water works, to serve as a law or measure and guide to the defendant, is entitled to a decree of forfeiture herein by merely proving isolated cases wherein the defendant company is
1576*c* alleged to have charged more than the amounts actually collected by the city in 1878 for service alleged, but not shown, to be the same or similar.

(*b.*) That this honorable court erred in this: That by section 15 of the charter of the water works company the company is given "the right to fix the rates of charges for water subject to two conditions: 1st. That the net profits of said company shall not exceed ten per cent. per annum. 2d. That the rates charged shall never exceed those then paid to the city;" and in order to compel compliance with these two conditions, the city council was given visitatorial power over the corporation, and the right by writ of mandamus to compel the company to comply with its demands in regard of the rates to be charged.

That these were the remedies provided by the charter, which was a contract between the city, the State and the company, for any overcharge in rates, and that the court erred in applying the severe and cruel punishment of forfeiture, which was evidently never within the contemplation of the parties to the contract, under the circumstances of this case, to wit:

1st. The presence in the directory of the company of the chief magistrate of the city, and of two other high city officials, all three elected by the people of the city of New Orleans.

2d. The entire failure of these officials to make any objections to the rates charged.

3d. The entire acquiescence of these officials in the rates charged.

4th. The entire failure of the city council to interpose any objections to the rates charged, or to take any proceedings by mandamus to compel a reduction of the rates charged.

5th. The fact that no demand was ever made by the State or its representatives or by the city or its representatives that the company should change or reduce its rates, and that the company was never put in default as regards the rates charged.

6th. The fact that the officials of the company have acted in good faith in making these charges and under the honest belief that they had the right to make such charges.

That in view of these facts and in view of the special remedy provided in the contract, to punish the corporation by the forfeiture of its charter for an error as to its right to charge rates, acquiesced

in for nearly a quarter of a century, is a judicial sentence consonant neither with equity, with justice, with the good faith which the public ought to keep with a quasi-public servant, nor with the contract between the defendant and its two adversaries in this case, the city and the State.

(*c.*) In failing to hold that no pretended neglect, mistake or failure of duty prescribed in section 15 of act 33 of 1877 can be made a lawful ground for this action or for forfeiture of any of the franchises, rights or property of defendant by the State until after defendant shall have had its day in court at the suit of the city of New Orleans and shall have wilfully neglected, failed or refused to comply with any lawful judgment against it in such suit if such judgment be adverse to the decision of its own board of directors fixing a tariff of rates; and in failing to find that the forfeiture of defend-
1576*d* ant's charter without judicial proceedings establishing maximum water rates and a disregard by defendant of said rates and under the circumstances set forth in the last preceding paragraph of this petition, being paragraph (*b*), is a denial to defendant of due process of law, and a taking of its property without due process of law, in violation of the constitution of the State of Louisiana and of the United States, and especially of the fourteenth amendment to the Constitution of the United States; and that the legislative resolutions under which this suit is brought, if construed as authorizing this suit, and the judgment herein, are laws impairing the obligation of the charter contract of defendant with the State of Louisiana and the city of New Orleans, which contract is protected from impairment by the constitution of the State of Louisiana and by the Constitution of the United States, and especially by section 10 of article 1 of said Constitution of the United States, which is expressly pleaded by defendant as a protection to its said charter contract and to its rights in the premises.

(*d.*) In failing to find that the charter and amended charter of the defendant company constitute a synallagmatic, commutative contract between it on the one side, and the State of Louisiana and the city of New Orleans on the other, which contract could not, under the laws in force at the time when said charter and amended charter were granted, be rescinded or dissolved, except upon tender back by the complaining party to the defendant of the price and consideration paid by such defendant under the contract sought to be rescinded or dissolved, and that neither the city of New Orleans nor the State of Louisiana has at any time tendered back to this defendant the price and consideration that defendant paid for its corporate life, franchises and other property, nor the value and cost of any betterment or betterments of said property by defendant while in possession thereof; nor has either of them in any way offered or attempted to restore this defendant to its condition as it existed at the time when said charter and amended charter were passed, and when defendant purchased its corporate life, franchises and other property as aforesaid, which offer and tender are required by the laws of the State of Louisiana existing and in force at the time when said char-

ter and amended charter were granted, and at all times since; and that the decree of forfeiture in this case, without any decree of *restitutio in integrum*, gives a construction to the legislative resolution under which this action has been brought violative of the obligations of defendant's charter contract, and which said contract is protected from impairment by any law of the State of Louisiana, both by the constitution of the State of Louisiana and by the Constitution of the United States, and especially by article I, section 10, of the said Constitution of the United States; and that the said decree of forfeiture without *restitutio in integrum* also constitutes a taking of defendant's property by The State of Louisiana, the complainant herein, without due process of law, and in violation of the constitution of this State and of article XIV of the amendments to the Constitution of the United States, and that said decree is therefore erroneous, null and void.

(*e.*) That this honorable court erred in decreeing the forfeiture of defendant's charter herein, for this, that forfeiture is a harsh
1576e and quasi-criminal remedy, decreed only in case of wilful and intentional breach of the essential charter obligations of a corporation. That such wilful or intentional breach is conclusively disproved in this case by the fact that the city of New Orleans, through its representation on the board of directors of the defendant company, has at all times participated in the management of defendant's affairs, been cognizant of the condition of management thereby participated in, and received all benefits, earnings and dividends to the extent of the proportion thereof accruing to the 3927 shares of stock at all times owned and held by the city of New Orleans.

That it is neither proved nor claimed herein that said representatives of the city of New Orleans on the board of directors of the defendant corporation ever dissented from or disapproved of any of the acts or doings of the defendant corporation, denounced by the court in its opinion in this cause, and made the subject-matter of the forfeiture of defendant's charter, and that the participation by public officials in said act now animadverted upon by the court, conclusively proves the absence of wilful or wrongful intent on the part of the defendant corporation.

Any other conclusion is necessarily based upon the proposition that the public may for twenty-two years participate in and profit by a great wrong, and by an offense denounced by the court as a corporate crime, and is yet thereafter entitled not only to retain the fruits of that wrong-doing, but also to confiscate for its sole benefit the property and franchises belonging jointly to it and to its co-conspirators, and that a court of justice will exercise a purely discretionary power in order to accomplish this result.

(*f.*) That the court has erred in exercising its judicial discretion in decreeing a forfeiture in a case of the peculiar character of the one at bar, and petitioner respectfully submits that this judicial discretion will never be exercised where the State herself has delegated her visitatorial power to a body of high public officials placed by her in

the inner councils of a corporation, and where she has thus secured the fullest publicity for all corporate acts and doings, and the fullest opportunity to object to them if wrong; and where those officials, with the same opportunity for ascertaining facts and participating in or objecting to corporate action as the other officers of the corporation, have sat at directors' meetings for nearly a quarter of a century without objecting to a single corporate act complained of. Petitioner submits that every principle of law and of fair dealing requires that the State should, in such cases, be held estopped from urging the forfeiture of the charter by reason of any of the corporate acts in which her agents have thus participated, at least until she shall have repudiated those acts and afforded an opportunity for a change of policy on the part of the corporation.

IV.

Whilst petitioner does not understand that the opinion and the decision of the court is based upon any finding that defendant has failed in the performance of any charter obligation as to the quantity and quality of the water to be furnished by it, still the opinion of this honorable court leaves it to be inferred that defend-
1576*f* ant has been guilty of some breach of its corporate obligations in this respect also. If the opinion of the court can be construed as a finding against defendant on this subject, then defendant further respectfully submits that the court has erred in such finding, and that defendant has not been guilty of any breach of its charter obligation as to the quality or quantity of water to be furnished under its charter.

V.

That this honorable court has erred in its opinion and decree in this cause in finding that defendant has in any matter or thing whatsoever been guilty of a breach of any obligation imposed upon it by its charter, or that upon any facts disclosed in the record in this cause the State is entitled to a decree of forfeiture of the charter of defendant.

Wherefore, defendant prays that a rehearing be granted it herein, and that upon such rehearing this honorable court will affirm the judgment of the lower court and reject plaintiff's demand at her costs, and further prays that an oral argument be allowed to it on its application for a rehearing, and that such delay as to your honors may seem meet and proper be allowed to it herein to file further reasons for, and a brief in support of, this application; and petitioner prays for all further and necessary orders in the premises and for general relief.

FARRAR, JONAS & KRUTTSCHNITT,
J. R. BECKWITH, AND
E. HOWARD McCALEB,
Attorneys for Defendant, Petitioner for a Rehearing.

1577 *Motion and Order for Time.*

(Extract from Minutes.)

NEW ORLEANS, TUESDAY, *November 19th*, 1901.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice. Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

On motion of J. R. Beckwith, Farrar, Jonas & Kruttschnitt and E. Howard McCaleb, attorneys for defendant, and on showing to the court that said defendant has this day filed its application for a rehearing in the above-entitled cause, and that the legal delay for the purpose of filing said application has not yet expired; that said cause is one involving large amounts of money and property; important rights and franchises; and is one of great public interest, and wherein the record is very voluminous, and that additional time for elaborating the argument on the points and authorities presented in the petition for rehearing herein is absolutely necessary for the proper presentation of such argument;

It is ordered by the court that a delay of fifteen days, in addition to the delay allowed by law for filing application for rehearing be and the same is hereby allowed to the attorneys for the defendant for the purpose of filing briefs or arguments in support of said petition.

Opinion on Application for Rehearing.

UNITED STATES OF AMERICA,
State of Louisiana.

Supreme Court of the State of Louisiana.

NEW ORLEANS, MONDAY, *February 3rd*, 1902.

The court was duly opened, pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice. Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

1578 His honor, Mr. Justice Monroe, pronounced the opinion and judgment of the court in the following case:

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 13701.

On application for rehearing.

The first proposition contained in the brief filed in support of the application for rehearing is, that, "the court erred in the statement" that the most important books, showing the charges and collections made by the city, have been lost, the defendant, to whom they were delivered with the works, and who had possession "of them for several years thereafter, being now unable to account for them." The books thus referred to are those showing the rates charged by the city, for water furnished by measurement, as contradistinguished from those showing the "flat" rates charged, to small consumers. It is not denied that they were delivered to the defendant, with the works, nor is it denied that they were in the possession of the defendant for several years thereafter, nor, yet, is it denied that they were called for by the plaintiff for the purpose of the trial of this case, in the district court, and that the defendant was unable to produce them. It is said, however, that the court has erred in attributing undue importance to the particular books mentioned, and in intimating, in the statement quoted, and throughout the opinion, that the defendant appears "in the very equivocal position of a spoliator of evidence."

We avail ourselves of the opportunity to say that it was not the purpose of the opinion handed down, nor is it the present purpose, to charge the defendant, either directly or by implication, with deliberately spoliating or suppressing evidence of any kind. We think, and we shall endeavor to show, more clearly than we have done, that the books in question bear such an important
1579 relation to this case, as to furnish, now, almost the sole measure of the obligations of the defendant and of the right of the public and of the State in the matter of the charges for water supplied by measurement, and hence, that it was the duty of the defendant to have preserved them in safety and in such a manner as that the State and the public, as parties in interest, could at all times have obtained access to them; but, that the defendant has failed to discharge that duty, and that the loss of the books is attributable to its gross negligence, the beginnings of which appear to have been coincident, in point of time, with its determination that it would no longer be governed, in the matter of its charges, by the rates which had been paid to the city, and which were recorded in those books; and, for these reasons, that the defendant is not in a position to complain of any reasonable indulgence extended to the plaintiff, in its effort to establish the contents of the books by secondary evidence.

It was stated by one of the counsel for the defendant, in oral argument before this court, that, by referring to the briefs in the cases of Ernst & Co., and Stewart & Rickert *vs.* N. O. Water Works Co., it would be found that the missing books had been brought up

with the appeals in those cases, and had been filed, in the originals, in this court, fifteen years ago; and it was also stated that an unavailing search had been made for them in the clerk's office; and these statements are reiterated in the brief which we are now considering. It does not appear that any such return was made to the *subpœna duces tecum* issued for the purpose of the trial in the district court, or that the search referred to was instituted at that time; and, as the "case" of Ernst & Co., with which that of Stewart & Rickert was argued in this court, was admitted in evidence on that trial over the objection of the counsel for the defendant, who still insist upon their objection, and further insist that nothing was offered or admitted save the "record," we should hardly have expected that they would rely, as they are now doing, upon the briefs in that case, as showing that the defendant was able to account for the books which it was unable to produce
1580 when called upon, and this more particularly as it was stipulated that the transcript, in the case of Ernst & Co., on file in this court, should be used for the purpose of the appeal and it does not appear that the brief attached thereto *were* ever called to the attention of the district judge. We have, nevertheless, in response to the invitation of the counsel, examined the briefs in the cases mentioned, as also the transcripts, and, having extended our inquiry to the cases of Levy; Allen & Syme; Louis Ruch; and Warner & Hoelzel, against the defendant, which "cases" or "records" were also offered in evidence on behalf of the plaintiff, we find the following state of facts, to wit:

In the month of October, of the year 1883, that being the second business year, dating from April 1882, of the administration of the water works under the defendant's new president, and of the operation of what that officer reported as "*a proper and reasonable advance "in the great majority of the assessments*," the plaintiffs above named instituted suits in which they alleged and complained, that they were engaged in rice-milling in New Orleans and required steam power; that their only means of obtaining water for that purpose was through the works controlled and operated by the defendant, since the defendant was claiming and exercising the exclusive privilege of furnishing the water supply to the inhabitants of New Orleans; that, by law, and by the terms of its charter, the defendant was bound to furnish the water required by them at the rates paid to the city upon March 31st, 1877, but, that defendant refused to receive payment at those rates, refused to furnish water unless much higher rates were paid, and had threatened to harass the plaintiff unless its demands were complied with; and, that the plaintiffs feared that it would cut off their water supply entirely unless restrained from so doing, and they prayed for injunctions and for judgments decreeing that they were entitled to water at the rates paid to the city upon March 31st, 1877.

The Levy case was tried and there was judgment for the
1581 plaintiff from which the defendant appealed, and lodged its appeal in this court in October 1885. The other plaintiffs

were represented by the same counsel, and, beyond the issuance of the injunctions prayed for by them, further proceedings in their case appear to have been, in the meanwhile, suspended.

(See page 5.)

1582 Upon the trial of the Levy case, the rates charged by the city, as shown by the books in question, and as charged by the defendant during the four years immediately following its acquisition of the works, were established by the testimony of the gentleman, who, during that time, had been the defendant's president. We make the following excerpt from that testimony: "Did you ascertain in any way the rates that had been charged by the city immediately previous to your taking charge? A. I was guided by that. Q. How do you mean? A. The assessment of the previous years. (Objection.) Q. Were you informed as to what the assessments of previous years had been? A. I found them in the books. Q. Were the books containing these assessments in the possession of the water works company at the time you took charge? A. Yes, sir. Q. You say you were guided by them in making your assessments for the first year? A. Yes, sir. Q. Do you mean by that that you took those assessments? A. I do. Q. And proceeded to collect on that basis? A. I did, that is, as much as possible. Q. How long was that course continued? A. Until the time I left there. (Cross-ex.:) Q. Did you leave those books with the water works company at the time you left? A. Yes, sir."

The transcript of appeal in the case in which this testimony was taken, and which by agreement of counsel we were to have used (subject to the objections urged) for the purposes of the instant case, cannot be found, and when the original opinion was prepared, not having taken into consideration the sources of information to which we are now referred, we were unable to say whether the books, themselves, had been offered. In the brief filed on behalf of the defendant in the case of Ernest & Co., and Stewart & Rickert, however, we find the following statement, to wit, "At this time," (*i. e.*, when the Levy case was tried) "the books in which the water rates of the city were recorded were missing and could not be found. Since then they have been found and are in evidence in this case, being brought
1583 up in the originals, by stipulation." The cases of Ernest & Co. and Stewart and Rickert were tried in 1886, after the judgment in the Levy case had been affirmed on appeal, and there were judgments for plaintiffs, as in the Levy case, *where* were also affirmed on appeal. So that in the Levy case, the books in question being missing, the plaintiff obtained judgment upon establishing, by means of the testimony of the defendant's former president, "the water rates of the city" recorded therein, and otherwise proving that the amount demanded of him exceeded those rates. And, thereafter, the books being produced and offered on behalf of the defendant, Ernst & Co. and Stewart & Rickert obtained like judgments before another judge of the district court, and in this court, upon establishing the same facts, *by means of the books*, as well as of the

relevant testimony which had been given in the Levy case and which was admitted by consent of the counsel on both sides; following which, as we understand the evidence, like judgments were rendered by the district court in the cases of Allen & Syme, Louis Ruch, and Warner and Hoelzel; and, from these last-mentioned judgments no appeals were taken. The transcripts in the cases of Ernst & Co. and Stewart & Rickert were lodged in the office of the clerk of this court in March, 1887, and the judgments appealed from were affirmed in May of the same year. The books in question, brought up in the originals, and not incorporated in the transcripts, were, in all probability, not filed at all. If they were filed the records of this court fail to show it.

In any event, after the litigation, for the purposes of which they were deposited in the clerk's office, had terminated, the defendant, as the owner and depositor, was at liberty to have withdrawn them, and, as no one else had that right, it is not unreasonable to suppose, in the absence of evidence to the contrary, that the books were withdrawn by it, rather than that they should have disappeared by reason of any failure on the part of the clerk properly to discharge his duty as custodian. If they were so withdrawn, and have since been lost by the defendant, as they appear to have been lost during the trial of the Levy case, it is not surprising that the search
1584 recently made by counsel, no doubt in the utmost good faith, in the clerk's office, was barren of results. If the defendant did not withdraw the books, after the cases of Ernst & Co. and Stewart & Rickert were decided, it seems to us that some explanation should be offered for its failure to do so, for this court had, then, three times decided that the rates paid to the city, *as recorded in those books*, were the rates by which the defendant was bound to regulate its charges during the many years of its prospective existence, and the information afforded by the books was, therefore, of vital concern in the matter of the discharge by the defendant of its obligations under its contract and of the protection of the rights of the State and of the city of New Orleans and its inhabitants, as parties to, and beneficiaries of, that contract, since, as the years pass, it can well be understood that it becomes not only difficult but impossible to obtain that information from any other source. Whether, therefore, the defendant withdrew the books, and lost them, or whether they have been lost by reason of its failure to withdraw them, the indisputable fact is, that, having the exclusive control of records affording information by means of which it was bound to regulate its charges for water sold by measurement it has so exercised that control as to dispossess itself of those records and to cut off the parties against whom such charges are to be made from access to that information, and, having done so, it now assumes the right to enforce a tariff of charges established by itself.

It is said that the court erred "in using as evidence in this cause the records in the cases of Isaac Levy and of others as against this defendant for the reason that the using of the records in said cases

was objected to as being *res inter alios acta* and inadmissible in evidence, and admitted over objection, and to which admission exceptions were noted and reserved; and that the evidence adduced in said causes was neither offered, nor admitted, in evidence on the trial of this case."

The consideration, moving to the State, in the contract, the violation and non-fulfillment of which is the cause of action
1585 set forth in the petition of the State, was the defendant's obligation, among others, to furnish the inhabitants of New Orleans with water, at a certain price. The State alleges that the defendant has violated that contract, and the law, by exacting a price for the water furnished by it in excess of that so agreed upon and authorized. It can hardly be denied that the individuals, for whose benefit, and with respect to whose water supply the State entered into the contract with, and granted to, the defendant the monopoly which it enjoys, are competent witnesses in this case to show that they have been overcharged and that they have complained of the overcharges, and it is admitted, in the argument, now presented on behalf of the defendant, that such individuals had, and have, the right to go into court, contradictorily with the defendant, and without making the State a party, for the enforcement of that contract with respect to such overcharges. And, yet, we are told that the fact that those individual beneficiaries have obtained relief by means of judgments against the defendant decreeing such violations of the contract sued on to have been committed is irrelevant to the present issue. We do not find it necessary to discuss this proposition.

It is further contended that the offers made by the plaintiffs were of the "records" in the cases mentioned and that such offers did not include the evidence and, hence, that such evidence should not be considered for the purposes of the case now under consideration. It is only necessary to say, in answer to this, that we have not considered the evidence referred to except that of the ex-president of the defendant company, which, it is admitted, was specially offered.

It is said that the court erred in admitting, or using, the alleged testimony of Edward Toby, alleged to have been given in the case of Isaac Levy *vs.* New Orleans Water Works Company, which alleged testimony was admitted over defendant's objection and a bill of exceptions reserved to the admission of the same, and this court also erred as to the weight and effect to be given to said testimony, if admitted.

In support of this criticism, it is contended, that the type-
1586 written document, purporting to contain testimony given by Mr. Toby, (who is the defendant's ex-president), in the Levy case, and offered as such, was not sufficiently identified, and this finds some support in the fact. But the Levy "*case*" and the "*cases*" of Ernst & Co., and of Stewart and Rickert were also offered with the stipulation that the transcripts, in this court, should be used; and, whilst the transcript in the Levy case is missing, we find, in the transcripts in the other two cases, the testimony of Mr. Toby, given in the Levy case, offered and admitted, by agreement;

and, in the brief filed by the defendant's counsel, in the two last-mentioned cases, to which brief we have been especially referred for the purposes of the present application that testimony is reproduced and made the subject of criticism. It can hardly be said, therefore, to lack identification. But, it is said, the testimony was not admissible, *per se*, and the typewritten instrument would have been admissible "only as a memorandum, made by a third person, and recognized by the witness as constituting a correct repository of facts, which he, many years ago, knew to be true and which facts were perpetuated in the document in question," therefore, as Mr. Toby was unable either to recognize the instrument or to remember the facts which it purported to perpetuate, the testimony should not have been admitted. Sir J. Stephens, in his "Digest of the Law of Evidence," states the common-law rule applicable to the question to be, that "evidence given by a witness in a previous action is relevant for the purpose of proving the matters in a subsequent proceedings, or in a later stage of the same proceeding, when the witness is dead, or insane, or so ill that he will probably never be able to travel, or is kept out of the way by the adverse party, or, in civil, but not, it seems, in criminal cases, is out of the jurisdiction of the courts, or, perhaps, in civil, but not in criminal, cases, when he cannot be found; *provided*, in all cases: (1) That the party against whom the evidence is to be given had the right and opportunity to cross-examine the declarant, when he was examined as a witness; (2) that the questions in issue were substantially the same in the first as in the second proceeding; (3) that the proceedings, if civil, were between the same parties, or their representatives
1587 in interest. (4) that, in criminal cases, the same person is accused upon the same facts." Stephens Dig. art. 32.

There is no doubt that the defendant in the instant case had the right, and the opportunity, to cross-examine the declarant when he was examined as a witness, and that it availed itself thereof. The questions at issue in the Levy case were, whether the defendant was charging more for water furnished in quantities than had been paid to the city, and whether, in so doing, it was violating the law of its existence and of the State; and it was upon those identical issues that this case has been decided. It is conceded in the present argument that Levy and the other rice millers had the right to bring their suits on the identical contract, made, in their behalf, by the State, upon which the State, itself, brings the present suit. It is said however, that the witness was neither dead, nor insane, nor sick, nor inaccessible, but, when put on the stand, was unable to identify the document purporting to contain his former testimony, which had not been written by him, or to remember the facts therein stated. Mr. Chase, in his edition of Stephens' Digest, says: "There are three cases of refreshing memory: (1) When the witness, by referring to the writing, is enabled to recollect the facts, and can testify, in reality, from memory: (2) when the witness, after referring to the writing, does not recollect the facts, and yet remembers that he made or saw the writing when the facts were fresh in his mind and

that it then stated the facts correctly · (3) when the witness, after referring to the writing, neither recollects the facts, nor remembers having seen it before, and yet, from seeing his handwriting therein (as in signature, contents, or both), is enabled to testify to its genuineness and correctness.

Chase's Stephens' Dig. arts. 136, 341–'2. *notes.*

But the reason upon which they are founded is somewhat broader than the rules as thus stated by the text writers, and the courts have not hesitated to appeal to the former when the latter have been found too narrow for the case to be decided. Thus, what matters it whether the witness, who is unable to remember the facts testified to on the former trial, identifies the instrument in
1588 which his testimony is preserved, or whether the genuineness of such instrument is established by the admission of the person against whom it is offered, or in some other satisfactory way, so long as he is able to say that the testimony as given is true? Mr. Toby could not have been expected to identify a typewritten instrument which he had never before seen, but he could testify, and he did testify in substance, that, if the testimony contained in the instrument exhibited to him was that given by him in the Levy case, it was true and he stood by it, though, by reason of the lapse of time (fifteen years) and his age, he was no longer able to remember the facts testified to. And that it was the testimony, so given by him in the Levy case, is abundantly shown by the admissions and evidence to which we have already referred.

" Where a witness has given his deposition, and, afterwards, upon being called to the stand to testify, his memory of the transaction fails, his deposition may be read in evidence by the party calling him." Jack *vs.* Woods, 29 Pa. St. 325.

In Lawson *vs.* Jones 61 How. Pr. 424, the question was, whether a party who had been examined on the first trial and was rendered incompetent by the death of his adversary before the second trial could have his testimony, given on the former trial, read at any subsequent trial, and Judge Daly (of the court of common pleas of N. Y., the entire bench concurring) held, that " there is no substantial reason why the testimony in such trial should not be read. The party was on the stand, and could have been cross-examined, and the same opportunity for scrutiny and for contradiction existed as if the jury had agreed upon a verdict. The objection, taken upon appeal, that the testimony cannot be read by the stenographer, who took it down on the former trial, from his notes, but must be produced in the form of depositions, reduced to writing and subscribed by the party, is not good. Such a rule would exclude all testimony taken in the manner authorized by law, and render the code inoperative." Rice on Ev. vol. 1 pp. 395–'6.

We might say the same thing in this case, since the testimony of witnesses in civil cases is taken in most, if not in all, of the
1589 district courts of this State by stenographers, and is not signed by the witnesses. And this practice is recognized in

other jurisdictions, where the rule referred to by Judge Daly, predicated upon the practice which had obtained before courts and litigants had begun to avail themselves of the services of stegraphers has been disregarded. Thus, Mr. Bradner says: "A transcript made by an official stenographer and duly certified by him to be a verbatim transcript of his notes of the evidence given upon a former trial is admissible." (Citing, Bridgman *vs.* Carey 62 Vt. 1; Conn. *vs.* McCarthy 152 Mass. 577; Com. *vs.* Doughty 139 Pa. St. 383; Stege *vs.* State 127 Ind. 15; State *vs.* Byers 16 Mont. 565.)

Bradner on Ev. 477, (and note).

It is further suggested that the court erred in the matter of the weight and effect to which the testimony of Mr. Toby is entitled, and we are invited to consult the brief filed by the defendant's counsel in the "Edwards" record as showing the contents of the missing books, excerpted in rebuttal of that testimony. This is probably a typographical error, and we assume that the counsel is referring us to the brief in the case of "Ernst & Co.," in which we find excerpts such as those indicated But this court had before it at that time not only the excerpts made by the defendant's counsel and other excerpts, made by the counsel for the plaintiff, but it had the books, themselves, as also the testimony of Mr. Toby, and it, nevertheless, reached the same conclusion as had been reached in the Levy case, the judgment in which was predicated upon the testimony of Mr. Toby, without books or excerpts. We find nothing in the case as now presented, therefore, to justify us in holding that we or our predecessors, have committed the error suggested.

It is said that "the court erred in multiplying by ten (through a clerical error) the average amounts realized by the defendant from the sale of water by it pumped from the Mississippi river and distributed through its mains to the people of the city of New Orleans, which clerical error is vitally important, because apparently, showing a revenue derived by defendant from its sales of water ten times
1590 greater, in the average per gallon, than justified by the evidence, even as construed by the court." This error is admitted but it does not affect the conclusion reached. The purpose was to show that, from a certain date, the defendant received more money for less, or for an equal quantity of, water, than had been received by the city, and that the average amount received per gallon, was larger. In order to establish the latter proposition, the total amounts received by the city and by the defendants were divided by the number of gallons pumped by them, respectively, and the quotients were stated in tens when they should have been stated in units. As the same error was committed on both sides the only cause of complaint lies in the fact that it was made to appear that the average amount per gallon, received by both the city and the defendant was larger than it really was. Beyond this, we agree with the learned counsel that the proposition as demonstrated, to wit: that the defendant received more money for less water and a

larger average price, per gallon, than the city, would be insufficient, in itself, to support the judgment rendered. The fact proved was, however, merely one of a number, leading to the same conclusion and used in a process of inductive reasoning to establish that conclusion. It might have been omitted and the result would have been the same.

It is said that the court erred "in finding that the rates charged by the defendant are, or were, at any time, greater than any city tariff, or alleged city tariff, either the so-called 'Hatch' tariff, or the alleged tariff of 1870, and that there is no evidence in the record showing or tending to support such finding." No attempt was made to show that the rates enforced by the defendant exceeded those established by either of the tariffs mentioned. On the contrary, it was distinctly held that the "Hatch" tariff had been abandoned; that the tariff of 1870 had never become operative; and that the only question to be determined was whether the defendant's charges have been in excess of those *actually made by the city, in March* 1877, *as shown by the books of the city.* The defendant's president, elected in 1882, referring, in his annual reports from time to time, to the "dissatisfaction" and "little natural remonstrance" which resulted from his advancing the price of water, was at some pains to say that the advances were within the
1591 company's "*authorized tariff.*"

The learned counsel, in a brief heretofore filed in this case, said; "Whilst we contend that the 'Hatch,' or 'Bragg,' tariff was, "unquestionably, the one in force in 1877, still, we cannot see that, "in so far as this particular case is concerned it will make much "difference whether the one or the other "(the Hatch tariff or that of 1870)" be adopted, because there is scarcely a bill, of the five "hundred, or more, offered in evidence by the plaintiff, which is as "high even as the rates allowed by the alleged tariff of 1870." The gentleman, who as president of the company, administered its affairs during the four years, from 1878 to 1882, immediately succeeding its acquisition of the works, gave the following testimony in the Levy case, whilst under cross-examination, in 1885, by one of the present counsel for the defendant, to wit:

"Q. Do you know anything about any Bragg tariff? A. There was a tariff, I think it was the 'Hatch.' General Bragg was in charge of it during the city administration. Q. What do you know about that? A. Well, that had been abandoned. Q. By whom? A. By the city. Q. How do you know? A. By the books, by their hydrant books. Q. Tell us in what instance they had abandoned it? A. Because they had reduced their charges, they had been "greatly reduced and the city had been reducing it for several years. "Q. What do you mean by the city? A. The city administrator of "water works. * * * Q. When did they abandon it? A. The "books show that. They were the only evidence I had of it, for a year "before I took charge." It is also shown, as we think, that the rates charged by the city in 1877 were lower than those established by the unpromulgated tariff of 1870. In view of this testimony and of the ex-

press prohibition in the defendant's charter to the effect that it should charge no more for water than was *actually paid to the*
1592 *city in March*, 1877, it is difficult to understand how it can be contended that the "Hatch" tariff was in force at that date, or that the defendant could have had any other "authorized tariff" than such as was to be found, and as the defendant actually found during its first four years of existence, recorded in the books of the city.

It is said that the court erred "in applying the vague term "'large consumers,' not only to Isaac Levy, and the other rice-mill-"ers, similarly situated, who sued for a reduction of water rates, in "1884, or thereabouts," (the suits were brought in October, 1883) "but "to consumers using far less water than said Levy and others, and "in the failure to find what was meant by 'large consumer,' and "who was entitled to be considered as a 'large consumer.'" The whole course of the defendant, since 1882, and the arguments which its counsel have addressed to this court in the instant case show that it has proceeded upon the theory that because there was no regularly adopted and published tariff in force at the date of its acquisition of the works, the prohibition against its charging more for water than was actually paid to the city at that time must be read out of its charter and held to be of no effect; and, the books showing what was so paid having been lost, whilst under its control, the most strenuous effort has been made to exclude probably the only evidence which is now obtainable as to their contents. That evidence was introduced in the Levy case in the absence of the books; and in the absence of the books, the district court and this court found that Levy, who was shown to have consumed 1,237,500 gallons of water during the milling season, of eight months, was overcharged, and that he was entitled to water at the price which he, and others similarly situated, had paid to the city, to wit: at the rate of 15 cents per thousand gallons. Referring to the judgment appealed from, this court said: "The judgment is based on as
1593 "reliable *data* as can be obtained. It is more favorable to the "Company than the computation warrants, but the plaintiff "does not complain." Levy *vs.* Water Works Co., 38 Ann., 28. The cases of Ernst & Co., and of Stewart & Rickert were afterwards tried, *with the books*, and also, with the testimony, as to their contents, which had been given in the Levy case. What the books showed was, in view of the decision which had been rendered in the Levy case, the most important question to be decided, and it was elaborately argued. In one of the briefs to which we have been referred (that of the plaintiff's counsel) it was said; "Your honors, by exam-"ing those books may see that, although charges over fifteen cents a "thousand gallons were made for water where the annual consump-"tion was less than a million gallons, yet there is no case where the "consumption of water was over a million gallons where the charge "was over fifteen cents per thousand gallons." In the brief filed on behalf of the defendant this statement was contested, and what purport to be extracts from the books were reproduced, and it was said

in regard to them: "The extracts cover a period of time when the "city used meter measurements in estimating quantity. The aver- "age highest charge per thousand gallons during the period of meter "measurements was 26½ cents. The average lowest 21 cents. The "average amount paid for in water 23¼ cents. The highest rate "shown on the tables was 40 cents per 1000."

Turning to the extracts referred to we find that they begin with water furnished in 1868 and that some of them show the charges made in 1876 and 1877, and others do not. In any event, it is evident that the averages thus arrived at had nothing to do with the question before the court, which was, what was the amount charged upon March 31st, 1877? And it must have been so considered since the position of the plaintiffs was sustained and there were
1594 judgments in their favor. It was therefore, judicially ascertained, contradictorily with the defendant, in the cases mentioned, that a person who used 1,237,500 gallons of water, or more, in eight months, was entitled to such water at the rate of 15 cents per 1000 gallons, and, although it was not held that a person using less would not have been entitled to it at the same rate, it seems fair to suppose, from the arguments presented, that a person using less than 1,000,000 gallons a year would have been required to pay a higher rate. These last-mentioned cases were decided, as we have already stated, in 1887. The evidence in the instant case shows, that, in 1894, the Cosmopolitan hotel used 4,838,695 gallons of water for which it paid the defendant at the rate of 30 cents per 1000. It is said that this was an exceptional case, but no reason is given why it should have been so, except that the proprietor of the hotel paid his bills without objecting. That, we apprehend, is what the uncomplaining mass of the people have been doing. If, upon the other hand, we believed that the only fault of the defendant lay in exceptional overcharges we should be willing to attribute such overcharges to error or accident. But such is not the case. In 1898, the defendant, acting upon the theory that it was bound by no established rates, published a tariff of its own making, in which we find the following:

"For daily average of	100	to	500	gallons, per	1000	gallons,	35	cents
" " " "	500	to	2000	"	"	"	"	30	"
" " " "	2000	to	4000	"	"	"	"	25	"
" " " "	4000	to	5000	"	"	"	"	20	"
" " " "	5000	to	10000	"	"	"	"	15	"

Consumption above 10,000 gallons, daily, special rates.

From this it will be seen that a person consuming a maximum of 5000 gallons a day or 1,825,000 gallons per year was required to pay at the rate of 20 cents per thousand, which was five cents in excess of the rate for which it had been held, more than ten years before, that Levy was liable, though there was no appreciable difference in the average daily consumption, and the gross amount consumed in the twelve months would be nearly 600,000
1595 gallons more than was consumed by Levy, as the latter used the water during only eight months. So, according to the

defendant's tariff, a person consuming a maximum of 4000 gallons a day, or 1,460,000 a year, would be charged at the rate of 25 cents per thousand. And yet, we think, within the meaning of the Levy case, and the other cases which have been decided against the defendant, and within any reasonable interpretation of the words, that a person who uses 1,460,000 gallons of water a year is a "large consumer." Beyond this, for the purposes of the present application, we have made a further and more critical examination of a number of the books showing the flat rates paid to the city, in the years 1876–'7 and 1877–'8, by small consumers, and we have satisfied ourselves that there was no error in the statement, contained in the opinion handed down that "the flat rates charged to the smaller consumers have been advanced and maintained by the company in excess of those exacted by the city during the last year of its administration."

The proposition that no decree of forfeiture should be rendered in this case, except upon a tender, by the State, to the defendant, of the bonds which were given by its stockholders in exchange for their stock, appears to us to be untenable. The defendant was established, as private corporations are usually established, by, and for the benefit of, its promotors, who held the bonds of the city of New Orleans, and as a measure of relief which no doubt, many other creditors of the city would have been glad, at that time, to have had extended to them. The only consideration received by the State for the valuable privileges granted by it was the advantage which it was supposed would inure to a community of her citizens from the faithful discharge by the corporation of the obligations assumed by it, and the corporate and other franchises were granted upon the condition, that, if those obligations were not faithfully discharged,
the franchises would be withdrawn. This was, and is, the
1596 law of this State, which entered into, and became a condition of, the contract, and the decree of forfeiture is merely the enforcement of that condition.

Rehearing refused.

Rehearing Refused.

(Extract from Minutes.)

NEW ORLEANS, MONDAY, *February 3rd*, 1902.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

His honor, Mr. Justice Monroe pronounced the opinion and judgment of the court in the following case:

STATE OF LOUISIANA
vs.
THE NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

For the reasons assigned in the opinion this day handed down the rehearing applied for in this case is refused.

Order to File Motion Directing Clerk to Withhold Mandate.

(Extract from Minutes.)

NEW ORLEANS, MONDAY, *February 3rd*, 1902.

The court was duly opened pursuant to adjournment.

Present: Their honors Francis T. Nicholls, chief justice, Joseph A. Breaux, Newton C. Blanchard, Frank A. Monroe, Olivier O. Provosty, associate justices.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

1597 The defendant, by counsel, J. R. Beckwith, Farrar, Jonas & Kruttschnitt and E. Howard McCaleb, Esquires, presented a motion suggesting that the defendant desires and intends to apply for a writ of error with *supersedeas* from the Supreme Court of the United States from the final judgment herein rendered and asking for the legal delay to make application for said relief and in the meantime that the clerk be directed not to send down the mandate in this cause; whereupon, the court allowed the motion be filed.

Summons to Board of Liquidation.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS CO. } No. 13701.

NEW ORLEANS, *Feb.* 5, 1902.

To the Board of Liquidation of the City Debt of the City of New Orleans:

Take notice: That the New Orleans Water Works Company, defendant in the above entitled and numbered cause, is about to apply for a writ of error with a *supersedeas* from the Supreme Court of the United States to the supreme court of Louisiana, from the final judgment rendered by the said supreme court of Louisiana in this case, and you, as one of the intervenors herein, are requested to join the defendant in said writ of error.

Please state whether you will join the New Orleans Water Works Co. in the petition for said writ of error, or will you refuse so to do. An immediate answer will oblige, yours respectfully,

(Signed) J. R. BECKWITH,
Do. FARRAR, JONAS & KRUTTSCHNITT,
Do. E. HOWARD McCALEB,
Attorneys for New Orleans Water Works Co.

Replying to the above the Board of Liquidation of the City Debt declines and refuses to join the New Orleans Water Works Co., in the application for a writ of error as above set out.

1598 (Signed) BRANCH K. MILLER,
Attorney for Board of Liquidation of the City Debt.

N. O. Feb'y 5, 1902.

(Endorsed:) No. 13701 Supreme court State of Louisiana *vs.* New Orleans Water Works Company. Summons to Board of Liquidation of City Debt and refusal of said board to join in application for writ of error. Filed February 12, 1902. (Signed) T. McC. Hyman, clerk.

Petition for Writ of Error.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

To the honorable the chief justice of the supreme court of the State of Louisiana, or to the honorable the Chief Justice or any Associate Justice of the Supreme Court of the United States:

The petition of the New Orleans Water Works Company, a corporation organized under the laws of the State of Louisiana, and domiciled in the parish of Orleans in said State, respectfully represents:—

That in the above entitled and numbered cause, then pending therein on appeal from the civil district court for the parish of Orleans, and wherein your petitioner, The New Orleans Water Works Company, was appellee, the supreme court of the State of Louisiana did on the sixth day of November, 1901, render a decree againt your petitioner in a certain cause wherein The State of Louisiana was plaintiff, your petitioner was defendant and The City of New Orleans, a municipal corporation organized under the laws of the State of Louisiana, and The Board of Liquidation of the City Debt, a body corporate also organized under the laws of the State of Louisiana, were intervenors; by which said judgment it was ordered, adjudged and decreed that the judgment appealed from

should be annulled, avoided and reversed, and that there be
1599 judgment in favor of plaintiff, The State of Louisiana, and against the defendant, The New Orleans Water Works Company, decreeing the forfeiture of the charter and of all the franchises heretofore conferred upon the said defendant corporation, and that the said defendant should pay the costs of court.

That thereafter, and in due time, your petitioner filed in the said supreme court of the State of Louisiana a petition for rehearing, which was by the court considered, and thereafter, on the third day of February 1902, overruled and denied; whereupon and on which day and date the said judgment of the said supreme court of Louisiana, which is the highest court of said State in which a decision in said suit could be had, became and is final:

Your petitioner avers that it is aggrieved by the said judgment and proceedings in said suit, and that in said judgment and proceedings had prior thereto in said cause, errors were committed to the prejudice of your petitioner in this, that there was in said suit drawn in question the validity of a statute or an authority exercised under the United States, and the decision in said suit was against their validity; and there was drawn in question the validity of a statute or constitution of, or an authority exercised under a State on the ground of their being repugnant to the Constitution or laws of the United States, and the decision in said suit was in favor of their validity; and that rights, titles, privileges and immunities were in said suit claimed by petitioner under the Constitution and statute of and commissions held and authorities exercised under the United States, and the decision in said suit was against the titles, rights, privileges and immunities specially set up and
1600 claimed therein by petitioner under such Constitution, statutes, commissions and authority, as will hereinafter more fully appear.

Petitioner avers that this suit was instituted on or about the 24th day of November, 1898, in the civil district court for the parish of Orleans, State of Louisiana, by the attorney general of said State, in the name and on behalf of The State of Louisiana as plaintiff, against your petitioner as defendant, averring that the city council of New Orleans had by resolution requested him to bring said suit, and that a joint committee of the senate and house of representatives of the State of Louisiana had investigated the affairs of the New Orleans Water Works Company, and after such investigation the General Assembly referred the matter to the attorney general to bring suit to forfeit the charter of the said water works company, or to take such action as he thought proper; and that in and by its said suit the State prayed for judgment against your petitioner and that its charter and all its franchises should be forfeited, and it be enjoined from tearing up the public streets and from pursuing its business, and for other relief in the alternative, as in said petition set forth, and which said petition is contained in full in the copy of the record of the proceedings had in said cause, which is herewith submitted as a part of this petition.

Your petitioner further says that your petitioner filed its answer to said suit within the delays prescribed by the laws of the State of Louisiana, and in and by its said answer made the following averments:

1601 That by virtue and authority of the provisions of an act of the legislature, approved April 1st, 1833, the late Commercial Bank of New Orleans was incorporated with authority, and charged with the duty of providing, a water-works plant and system for the city of New Orleans, and immediately complied with that grant and duty by constructing water works and operating the same. That by the terms of said act of April 1st, 1833, the city was permitted to subscribe to the capital stock of said Commercial Bank of New Orleans to the extent of five thousand shares and to pay its subscription in the bonds of the city of New Orleans, bearing five per cent. interest per annum, redeemable in forty years. The city did subscribe for and take five thousand shares of said stock and in payment therefor made and delivered to the said Commercial bank its bonds for the full amount of five hundred thousand dollars, said bonds bearing interest at the rate of five per cent. per annum, redeemable in forty years from the date thereof.

That by the terms and conditions of said act of 1833, the city by virtue of its ownership of said five thousand shares of stock, became entitled to appoint two members of the board of directors of said bank, and it was also further enacted therein that, if at the expiration of thirty-five years the city desired to purchase said water works, the bank was compelled to sell the same to the city for a price to be ascertained by an arbitration provided for in said act. The price to be paid by the city in its municipal bonds, bearing interest at the rate of five per cent. per annum, redeemable in not less than ten nor more than thirty years. That at the expiration of said period of thirty-five years the city elected to purchase the water works, arbitration was had and the value and price of the property fixed at two million dollars.

The city at that time being a shareholder in the capital stock of the Commercial bank to the extent of five hundred thousand dollars, as above set forth, credit to that amount was allowed the city on the price of said property as established by arbitration. The city being also as a shareholder interested in the cash assets of said Commercial bank, constituting the sinking fund held by the Commercial bank, as provided for in the twenty-third section of said act of 1833, amounting to the total sum of one hundred and six thousand and six hundred dollars, as the city's share thereof, making, together with said five hundred thousand dollars, on account of stock held by the city, the sum of six hundred and six thousand and six hundred dollars for which the city was entitled to credit on the price of said water works as so fixed by arbitration, leaving the balance to be paid by the city to said Commercial bank, one million, three hundred and ninety-three thousand and four hundred dollars, to be paid in city bonds authorized by said

act of 1833. Said price having been so established and fixed by the parties, the Commercial Bank of New Orleans, by notarial act of sale, passed before Andrew Hero, Jr., a notary public, in and for the parish of Orleans, on the 19th day of January, 1869, sold and transferred all of said property, together with all rights, franchises and monopolies connected therewith, to the city of New Orleans. The city, as the price so due the Commercial bank therefor, making and delivering to the said vendor, its municipal bonds bearing five per cent. interest, maturing in thirty years from the date thereof, to the amount of one million, ninety-three thousand and four hundred dollars, as more fully and at large appears by a copy of said notarial act filed with this answer and made part hereof and marked "Answer, Exhibit A," to which this defendant at all times refers for certainty.

1602 That from the date of said purchase, on the 19th of January, 1869, until the 9th of April, 1878, the city of New Orleans was sole owner of water works in the city, with full power to enlarge and improve the plant if found not adequate to provide the requisite quantity or quality of water to meet the demand of the city or its inhabitants for all purposes; but deeming the water works adequate in all respects, the city did not during its ownership increase or improve the efficiency or capacity thereof, but rather diminished the same, by allowing the plant and works to become lessened in capacity by decay and dilapidation.

That shortly after the purchase of said property by the city of New Orleans, the five hundred thousand dollars in municipal bonds issued to the Commercial bank, in payment for its stock subscription to five thousand shares of the capital stock of the bank at the time of its organization in 1833, became due and payable, and were by the city allowed to become dishonored by non-payment, only one hundred and eleven thousand five hundred dollars in amount thereof having been redeemed by the city in any form or by any means prior to the 9th day of April, 1878. The remainder of said bonds being outstanding dishonored and unpaid in the hands of *bona fide* holders. At the same time the current obligations of the city matured and constituting its floating debt, amounting to several million dollars, were also outstanding in the hands of its creditors unpaid, the holders thereof clamoring for pay in vain, the city being without revenue or resources adequate to meet and pay the same or its current expenditures involved in the administration of municipal government.

The financial condition of the city being in the condition above set forth, the State legislature attempted to rescue the city in part from this condition of practical bankruptcy by various devices, one being the premium-bond device and scheme, another was to sell or exchange the city asset, consisting of its public water works for money or in exchange for the matured obligations of the city to some purchaser who would take the property with such added franchises and rights as would apparently make the property valuable in the hands of such purchaser.

To accomplish this end the State legislature, in order to obtain a possible purchaser, was compelled to provide for the creation of a corporation to effect sufficient aggregation of capital necessary to purchase the water works at the price for which the State offered the same for sale, to wit, two million dollars, and at its extra session in 1877 adopted said act No. 33 of the acts of that session, referred to in the petition herein, and tendered said water-works property and rights for sale under the terms and conditions of that act; but the terms of said act were so burdensome, the *ex officio* power of direction vested in the representatives of the city on the board of directors by said act was so great, when added to the city's voting capacity on the stock that it might hold, and the other obligations, features and conditions of the act were so onerous that no persons could be found willing to avail themselves of the act and create the corporation provided for therein. The State having become satisfied that none would avail themselves of said act No. 33, adopted at the next session of the legislature the amendatory act No. 43, of the acts of 1878, and again offered the said property for sale, together with the rights, privileges, franchises and exemptions conferred in said legislation as amended. This defendant at all times refers to the said acts of the legislature for certainty and makes the same a part of this answer.

1603 When said act No. 33, of extra session of 1877, had been amended, as aforesaid, by the act of 1878, persons sufficient in number and amount, of the holders of the city's obligations described in said legislation, were found, who were willing to avail themselves of the offer so made in said legislation, and organize the corporation provided for to purchase the property and rights so offered for sale by the State; and having subscribed stock to the extent of five hundred thousand dollars, and having also surrendered to the city of New Orleans, city obligations of the character named in said legislation to the amount of five hundred thousand dollars, par value thereof, to be cancelled and held by the city, as provided in said act No. 33, extra session 1877, and, after the notice required by said act, met together prior to the 9th day of April, 1878, and in due form organized the corporation provided for and in all things became a corporation as The New Orleans Water Works Company, defendant herein, and immediately, as required by said legislation, made and issued in due form and delivered to the city of New Orleans full certificates of ownership of the entire twenty thousand shares of stock constituting the entire capital stock of the defendant corporation, conferring the same upon the city of New Orleans in full and complete ownership thereof, not subject to any assessment or demand of the corporation thereon.

The defendant never received into its treasury one dollar from the amount of its capital stock, the city owning and holding every share thereof, as the stipulated purchase price of its entire water-works plant and property, including franchises and rights granted by the State and sold with the balance of the property, rights and franchises so offered for sale by the State, amongst which property so sold to,

and purchased by, this defendant for a valuable consideration, was the valuable and indispensable franchise to be a corporation, a right and property not severable in law from the balance of other property included in said sale to this defendant.

That on the 9th day of April, 1878, that there might be authentic evidence of said purchase and sale, the city of New Orleans, as directed in said legislation, by a notarial act passed before Gustave Le Gardeur, Jr., at that time a notary public, in and for the parish of Orleans, in due form, sold and transferred to this defendant all of said property, rights, servitudes, privileges and franchises connected with said water works and owned by the city in connection therewith, acquired from said Commercial Bank of New Orleans, or from any other source, as well as all the rights, franchises, exclusive privileges and immunities created and named in said act No. 33, of the acts of extra session of 1877, and act 43, of the acts of 1878, as well as all of the rights, monopolies, and franchises granted to the Commercial bank under and by the provisions of the said act, approved April 1st, 1833, incorporating the said Commercial Bank of New Orleans, that had been assigned and come to the city under the terms of its purchase of the water works from the Commercial bank and by the terms and covenants contained in said notarial act of transfer of the 19th of January, 1869, so passed before Andrew Hero, Jr., notary, hereinbefore made part of this answer marked "Answer, Exhibit A," as will more fully and at large appear by the attested copy of said act of sale, before said notary public, Gustave Le Gardeur, Jr., made a part hereof, marked "Answer, Exhibit B," to which this defendant at all times refers for certainty.

1604 That there is no holder of a share of the capital stock of the defendant corporation except the city of New Orleans itself that does not hold his shares of said stock by title traceable through mesne assignment to the city of New Orleans, the original holder and owner of the entire twenty thousand shares of stock authorized by act No. 33, of extra session, 1877, and that no other shares were ever issued or have ever been in existence.

The city of New Orleans has sold or exchanged in extinguishment of city obligations all of said twenty thousand shares of stock, excepting thirty-nine hundred and twenty-seven shares thereof, that are as yet not disposed of by sale or exchange for city indebtedness. The last-mentioned shares were held in the name of the city itself as owner until, in compliance with a judgment of the civil district court for the parish of Orleans, affirmed by the judgment of the supreme court of the State, the said shares of stock so standing in the name of the city, were transferred to the Board of Liquidation of the City Debt, and have since said transfer been held by that board for the city as an asset of the city for the extinguishment of its debts, subject to the trust imposed thereon by said act No. 33, extra session, 1877, and all earnings and dividends thereon have since been paid to the city through said board of liquidation.

And further answering, defendant saith, that by the terms of said legislation the State of Louisiana, being well aware that the entire

capital stock of the New Orleans Water Works Company was to be given to the city of New Orleans, as provided in said act 33, extra session, 1877, and from which this defendant would not receive a dollar in funds in its treasury to enable the corporation to carry out the obligations imposed upon it, and in order that the funds might be obtained to accomplish that purpose, in section 9 of the said act, conferred power on defendant to borrow money for the purposes therein stated, and with the consent of the city council secure the payment of bonds issued for that purpose by a mortgage of all the property and franchises of the company, including its "*franchise to be a corporation*," specially therein named, as subject to hypothecation, providing the manner in which such mortgage shall be recorded and declaring that such mortgage shall be and continue a valid and subsisting mortgage until the payment of the debt so secured without re-recordation.

That this defendant has twice availed itself of this right and power to issue its bonds, secured by mortgage of said property, franchises and rights, after having, in due form, first obtained the permission of the council of the city of New Orleans so to do.

That on or about the 1st day of April, 1879, defendant, by an act before James Fahey, then a notary public, in and for the parish of Orleans, in due form of law made and executed an act of mortgage to secure its bonds to the amount of five hundred thousand dollars, issued in accordance with the provisions of said act No. 33, extra session, 1877, for the purposes therein stated. That of the bonds so secured, bonds to the amount of three hundred and ninety-five thousand dollars have been issued and the money therefor received by defendant, all of which, except as to matured interest coupons, are not yet due and payable and are held and owned by third persons, *bona fide* holders, and are in form transferable by delivery, and that amongst the other property so mortgaged to secure the payment of said bonds, the "*franchise to be a corporation*" is specially designated, described and hypothecated as security for the payment of said bonds.

That afterwards, by another act of mortgage, in due form, passed before C. T. Soniat, a notary public, in and for the parish of Orleans, on or about the 22d day of December, 1892, this defendant,
1605 with like consent of the city council, and for like purposes, provided for in said act No. 33, extra session, 1877, made and executed another, a junior mortgage, to secure a loan of two hundred and fifty thousand dollars, represented by bonds of the defendant, due in twenty-five years transferable by delivery, and except as to matured interest coupons are all as yet unmatured and in the hands of third holders in good faith, all having been issued and the money therefor received by defendant. That this mortgage is a second and junior mortgage, mortgaging and hypothecating all of the property of defendant, including the "*franchise to be a corporation*," that being therein specially named and mortgaged as authorized by said act No. 33 to secure the payment of said bonds and interest.

That both of said mortgages are duly recorded in the proper office of record of such mortgages and all the world has notice thereof, whereby the holders of both said series of bonds under said mortgages have property and right in said grant, so made by the State of said "franchise to be a corporation" by this defendant so hypothecated to them in good faith, and they cannot lawfully be divested thereof, or their property therein injured or impaired in value in this action, or in any suit or action in court to which the said holders are not parties thereto, and given their day in court, and this defendant so pleads herein as one defense against plaintiff's action and demand, and that said holders of said bonds are indispensable parties to this action; which by the prayer therein seeks to destroy said franchise to be a corporation so granted to and owned by this defendant and so hypothecated, and that said plaintiff is acting in bad faith and contrary to the constitution of the State of Louisiana and the Constitution of the United States in so assailing said franchise to be a corporation in manner and form as the same is assailed in this action, particularly the fourteenth amendment of the Constitution of the United States, prohibiting any State from depriving any person of life, liberty or property without due process of law, or from denying any person within its jurisdiction equal protection of its laws, and this defendant so pleads said constitutional guarantees herein as a right conferred by said Constitution of the United States.

And further answering, defendant saith that it has heretofore in this answer set forth and shown to the court in detail the history, acts and matters connected with the creation and existence of the defendant corporation and the motives, intents and purposes of the legislature of the State in authorizing and creating the defendant corporation; that the court may be fully advised thereof, and having so done now pleads and avers and insists to the court that by reason of the premises and of the law, the grant of corporate life to this defendant was not, as is usually the case in grants of corporate life, for the purpose and in consideration only of the establishment of public works or improvements of a public character, that is to say, where the only consideration passing to the State for the grant of corporate life is some supposed increased general public benefit resulting from the construction and installation of public works, as in the case of ferries, bridges, railways, etc., but, on the contrary thereof, in the case of the defendant corporation the contract and agreement between the State and this defendant was and is an unquestionable contract of bargain and sale of all the property, rights and franchises named in act No. 33, extra session of 1877, as amended by said act No. 43, of 1878, for an exact price fixed by the State in its offer of the said property for sale and accepted and paid by this defendant in a bargaining in which the State was not acting alone in its character of sovereign, but as a merchant
1606 and trader in commerce, and that in the bargaining and sale of said property and franchises the State must in law and by the courts be considered as a trader engaged in driving

a hard commercial bargain in its own interest and on its own terms for its own benefit and profit.

That it was not the real motive or intent of the State in thus bargaining to benefit the inhabitants of New Orleans by providing for them a water-works system and plant, for they had for years before that time possessed a public water supply, water works and system. Nor was it the intent of the State in thus bargaining to provide authority to enlarge and improve the then existing water works of New Orleans, for the city, the then owner thereof, had full power to extend, enlarge and improve its water-works at will without resort to the legislature for authority. If the complaint was that the city possessed insufficient funds for that purpose, a simple act allowing the city to specially mortgage its water-works property would have provided funds for that purpose, in addition to the money arising from the revenue of the water works or from other revenue sources. That such was not the case is further demonstrated by the enactment contained in the fifth section of said amendatory act No. 43, of 1878, that section being declaratory of the legislative intent in adopting section thirteen of act No. 33, extra session, 1877, which is as follows:

"SEC. 5. Be it further enacted, etc., That the full, complete and adequate supply of water, referred to in section thirteen (13) of said act No. 33, shall be so construed as to require a supply of water at the height of not less than fifteen (15) feet from the ground wherever the pipes of the water works now exist."

This defendant avers that the true and actual legislative intent in said act No. 33, of extra session of 1877, and act No. 43, of 1878, was the legislative purpose to sell the property, real, personal and mixed, and all the added rights and franchises contained in said legislation, including the right and "franchise to be a corporation," created in said legislation, as an inseparable entirety and mass, in order to obtain the means and resources from the purchaser thereof to pay or extinguish two million dollars of the public and floating debt of the city of New Orleans. That the "franchise to be a corporation" was a large and extremely valuable part and portion of the property so offered for sale by the State and so sold to this defendant, and for which it paid the bargained consideration and price of two million dollars. And this defendant pleads and avers that said right to be a corporation cannot lawfully be in this action or by any other means segregated from the other property and mass and destroyed, as is sought in this action by the State moving for such segregation and destruction, the same being in fraud and bad faith while it holds and retains the price paid therefor by this defendant.

That said contract of bargain and sale is in all respects the same in law as if it had been made and entered into by and between private citizens and traders, trading in this State, and cannot be assailed or recalled by the State excepting for the same sufficient causes and by the same legal proceedings in the same form as provided by the laws of this State in force at the time when said contract and sale was made, providing for assaults upon and the rescis-

sion of like contracts between private citizens or inhabitants of the State, all of said statutes, laws and remedies and procedures in court, as far as the same affect said contract, being in fact and in law a part of said contract between the State and this defendant, must, at all times, be read into said contract.

1607 That said contract was and is protected from all impairment at the hands of the State by the Constitution of the United States, particularly in the first article thereof, section ten, at all times bearing on the State of Louisiana as a prohibition, while acting or moving, as plaintiff in this action, in impairment of the faith of its own contract, to the same extent as if such impairment had been attempted through and by means of legislation compassing the same effect and result.

That if said joint resolution of the State legislature, referred to in the petition herein, can be or is construed as directing the institution and prosecution of this suit (that is, concurrent resolution, being act No. 150, of the acts of 1898), or as directing the attorney general of the State, in the name of the State, to institute and prosecute this action, in manner and form, as the same is instituted and prosecuted, for the purpose and with intent to segregate from the mass of the property so sold by the State to this defendant for value its "franchise to be a corporation" for forfeiture and destruction, or, if there exists any other statutes of the State authorizing or directing the attorney general to that end and purpose, said joint resolution and said statutes are severally repugnant to the Constitution of the United States, particularly to section ten of article one thereof, and this defendant specially pleads the same herein in defense of this action, claiming the protection thereof.

That in and by act No. 56, of the acts of 1884, made a part of this answer, as if the same was written herein *in extenso*, the State of Louisiana fully recognized this defendant as an existing corporation and in all things recognized the same as having full power to exist free from any cause of forfeiture of its corporate life or lawful grounds for the rescission of said contract, bargain and sale with which its corporate life is indissolubly connected and welded, and neither the city of New Orleans nor the State of Louisiana has, at any time, tendered back to this defendant the price and consideration that defendant paid for said corporate life and other property, nor the value and cost of any betterment of any of said property by this defendant while in possession thereof, nor have either of them in any way offered or attempted to restore this defendant to its condition as it existed at the time when it so purchased its corporate life and other property as aforesaid, as required by law in the case of rescission of contracts by the law of the State existing and in force at the time when said sale was made, and at all times since that date. Nor has either the State or the city of New Orleans in any manner attempted to put this defendant in default for any alleged non-performance of said contract with the State of Louisiana in any lawful manner or form.

And this defendant, saving and reserving the benefit of all the

pleas and exceptions and matters in this answer hereinbefore stated and pleaded, and in nowise waiving the same, but at all times insisting thereon, and proceeding to answer specially and in detail the several allegations and alleged separate grounds of forfeiture in said petition set forth, numbered from one to twelve, inclusive, saith, that as to the allegation that the city council of the city of New Orleans has, by resolution, directed or requested the State of Louisiana through its attorney general to institute this action, this defendant saith that the city of New Orleans is a shareholder of the capital stock of the defendant company to the extent of thirty-nine hundred and twenty-seven shares; that but for the bad faith, assaults of the city on the property and rights of defendant, said shares would be an asset of the city, worth the full sum of four hundred and thirty-one thousand nine hundred and seventy dol-
1608 lars in market value, and that all of the great depreciation in market value of said city stock and asset, and the loss to the city in property, has been the result of the bad faith, attacks and assaults, slanders and libels of the city as a shareholder, having three-sevenths representation of the board of directors of defendant corporation, and also having, by solemn act and contract, warranted the defendant against eviction, destruction of life and the possession of all the franchises, property and all other rights, so sold defendant for two million dollars paid to the city therefor.

That said resolution or ordinance was adopted in bad faith and was and is no warrant or authority for the institution of this action by the attorney general for and in the name of the State. That if the said legislation of the city of New Orleans is any authority, lawful direction or warrant to the attorney general of the State to institute this action and prosecute the same and can be so held by the courts, then said resolution is repugnant to law, to the constitution of the State and to section 10 of article one of the Constitution of the United States, as impairing the faith of a contract between the defendant and the State of Louisiana, in which the city of New Orleans, an integral part of the State, was chief beneficiary, as well as a party, and bound to observe good faith and fair dealing in respect thereto in its legislation, and this defendant so pleads herein, claiming and demanding the benefit of said guarantee in the Constitution of the United States.

Your petitioner further states that after due proceedings had a judgment was rendered by the said civil district court of the parish of Orleans in favor of defendant; The New Orleans Water Works Company, and against the plaintiff, The State of Louisiana, rejecting its demand, and ordering that the interventions of the City of New Orleans and the Board of Liquidation of the City Debt be dismissed at said intervenors' costs; that appeals were taken from said judgment by the said State of Louisiana and city of New Orleans, and upon said appeals judgment was rendered by the said supreme court as aforesaid.

That in and by its petition for a rehearing in said cause, filed as aforesaid, petitioner, among other things, alleged as follows, to wit:

"(*b.*) That this honorable court erred in this: That by section 15 of the charter of the water works company the company is given the 'right to fix the rates of charges for water subject to two conditions: 1. That the net profit of said company shall not exceed ten per cent. per annum. 2. That the rates charged shall never exceed those then paid to the city:' and in order to compel compliance with these two conditions the city council was given visatorial power over the corporation, and the right by writ of mandamus to compel the
1609 company to comply with its demands in regard of the rates to be charged.

"That these were the remedies provided by the charter, which was a contract between the city, the State and the company, for any overcharge in rates, and that the court erred in applying the severe and cruel punishment of forfeiture, which was evidently never within the contemplation of the parties to the contract, under the circumstances of this case, to wit:

"1. The presence in the directory of the company of the chief magistrate of the city, and of two other high city officials, all three elected by the people of the city of New Orleans.

"2. The entire failure of these officials to make any objections to the rates charged.

"3. The entire acquiescence of these officials in the rates charged.

"4. The entire failure of the city council to interpose any objections to the rates charged, or to take any proceedings by mandamus to compel a reduction of the rates charged.

"5. The fact that no demand was ever made by the State or its representatives or by the city or its representatives that the company should change or reduce its rates, and that the company was never put in default as regards the rates charged.

"6. The fact that the officials of the company have acted in good faith in making these charges and under the honest belief that they had the right to make such charges.

"That in view of these facts and in view of the special remedy provided in the contract, to punish the corporation by the forfeiture of its charter for an error as to its right to charge rates, acquiesced in for nearly a quarter of a century, is a judicial sentence consonant neither with equity, with justice, with the good faith which the public ought to keep with a quasi-public servant, nor with the contract between the defendant and its two adversaries in this case, the city and the State.

"(*c.*) In failing to hold that no pretended neglect, mistake or failure of duty prescribed in section 15 of act No. 33 of 1877
1610 can be made a lawful ground for this action or for forfeiture of any of the franchises, rights or property of defendant by the State until after defendant shall have had its day in court at the suit of the city of New Orleans and shall have wilfully neglected, failed or refused to comply with any lawful judgment against it in such suit if such judgment be adverse to the decision of its own board of directors fixing a tariff of rates and in failing to find that the forfeiture of defendant's charter without judicial proceedings establishing

maximum water rates and a disregard by defendant of said rates and under the circumstances set forth in the last preceding paragraph of this petition being paragraph (*b*), is a denial to defendant of due process of law, and a taking of its property without due process of law in violation of the constitution of the State of Louisiana and of the United States, and especially of the 14th amendment to the Constitution of the United States; and that the legislative resolutions under which this suit is brought, if construed as authorizing this suit, and the judgment herein are laws impairing the obligation of the charter contract of defendant with the State of Louisiana and the city of New Orleans, which contract is protected from impairment by the constitution of the State of Louisiana and by the Constitution of the United States, and especially by section 10 of article 1 of said Constitution of the United States which is expressly pleaded by defendants as a protection to its said charter contract, and to its rights in the premises.

"(*d.*) In failing to find that the charter and amended charter of the defendant company constitute a synallagmatic, commutative contract between it on the one side, and the State of Louisiana and the city of New Orleans on the other, which contract could not, under the laws in force at the time when said charter and amended charter were granted, be rescinded or dissolved except upon tender back by the complaining party to the defendant of the price and consideration paid by such defendant under the contract sought to be rescinded or dissolved, and that neither the city of New Orleans nor the State of Louisiana has at any time tendered back to this defendant the price and consideration that defendant paid for its corporate life, franchises and other property nor the value and cost of any betterment or betterments of said property by defendant while in possession thereof, nor has either of them in any way offered or attempted to restore this defendant to its condition as it existed at the time when said charter and amended charter were passed, and when defendant purchased its corporate life,
1611 franchises and other property as aforesaid, which offer and tender are required by the laws of the State of Louisiana existing and in force at the time when said charter and amended charter were granted, and at all times since; and that the decree of forfeiture in this case, without any decree of *restitutio in integrim*, gives a construction to the legislative resolution under which this action has been brought violative of the obligations of defendant's charter contract, and which said contract is protected from impairment by any law of the State of Louisiana, both by the constitution of the State of Louisiana and by the Constitution of the United States, and especially by article 1, section 10, of the said Constitution of the United States; and that the said decree of forfeiture without *restitutio in integrim* also constitutes a taking of defendant's property by The State of Louisiana, the complainant herein, without due process of law, and in violation of the constitution of this State and of article XIV of the amendments to the Constitution of the United States, and that said decree is, therefore, erroneous, null and void.

That the said supreme court of Louisiana, upon said petition for rehearing further considered said matters so set up by your petitioner, and decided adversely to the same, as will appear from a copy of the opinion of said supreme court in overruling petitioner's petition for a rehearing, and which opinion appears in the record submitted herewith, and is referred to as part of this petition.

Your petitioner further avers that the said honorable supreme court of the State of Louisiana by its judgment in this cause sustained the validity of the joint resolutions under which said suit for the forfeiture of defendant's charter was brought, and which resolutions, construed as authorizing said suit and the judgment therein rendered, are laws impairing the obligation of the charter contract of defendant with the State of Louisiana and the city of New Orleans previously entered into, which contract is protected from impairment by section 10 of article 1 of the constitution of the
1612 United States; and also sustained the validity of the action of the State of Louisiana through her attorney general and courts in forfeiting defendant's charter and taking its property without due process of law, in violation of the Constitution of the United States, and especially of the fourteenth amendment thereto; and that by the decision and judgment of said honorable supreme court your petitioner is deprived of property without due process of law, contrary to article XIV of the amendments to the Constitution of the United States; and that the said honorable supreme court by its said judgment decided against the validity of an authority exercised under the United States, drawn in question in this cause, and against the rights, titles, privileges and immunities specially set up and claimed by petitioner under the Constitution and statutes of, and commissions held, and authority exercised under the United States, and in favor of the validity of statutes of, and authorities exercised under the State of Louisiana, drawn in question in this cause, on the ground of their being repugnant to the Constitution and laws of the United States, and decided in favor of the validity of the action of The State of Louisiana, depriving petitioner of its property without due process of law, and sustained the action of the State of Louisiana in taking the property of petitioner without due process of law, and for public use without compensation, contrary to the Constitution of the United States, all of which with other necessary particulars will more fully appear from a certified copy of the pleadings and proceedings had in said cause, which is annexed to and made part of this petition.

Petitioner refers to the assignments of error filed herewith, and prays that the same be considered for the purposes of this petition as a part thereof, and further prays that a writ of error may be allowed and issued herein to the said supreme court of Louisiana which now has the record in said suit, for the removal of said cause into the Supreme Court of the United States, to the end that errors in said judgment and the proceedings in said cause may be duly corrected, and full and speedy justice done to the parties afore-
1613 said in this behalf, and that the transcript of the record, pro-

ceedings and papers in said cause, duly authenticated, may be sent to the said Supreme Court of the United States.

(Signed) J. R. BECKWITH,
Do. E. B. KRUTTSCHNITT,
Do. E. H. FARRAR,
Do. E. H. McCALEB,
Do. B. F. JONAS,
Attorneys for Petitioner, Plaintiff in Error.

(Endorsed:) No. 13701 Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Company. Petition for writ of error. Filed February 12, 1902. (Signed) T. McC. Hyman, clerk.

Assignment of Errors.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

Now comes plaintiff in error in the above-entitled cause, and on its writ of error from the Supreme Court of the United States says that in the record and proceedings in said cause there is manifest error to its prejudice which it assigns as follows:

I.

The said supreme court of Louisiana erred in deciding against the validity of an authority exercised under the authority of the United States drawn in question in this cause.

II.

The said supreme court erred in deciding against the title, right, privilege and immunity specially set up and claimed by plaintiff in error under the Constitution and statutes and authority exercised under the United States.

III.

The said supreme court erred in deciding in favor of the validity of statutes and authorities exercised under the State of
1614 Louisiana, drawn in question in this cause, on the ground of their being repugnant to the Constitution and laws of the United States.

IV.

The said supreme court erred in giving validity to the resolution of the General Assembly of the State of Louisiana, commonly known as

act 150 of the acts of the legislature of the State of Louisiana for the year 1898, which was drawn in question in this cause under a construction thereof which impaired the obligation of the contract entered into between the State of Louisiana and the New Orleans Water Works Company, being the charter of said New Orleans Water Works Company.

V.

That the said supreme court erred in sustaining the validity of the authority exercised under the State of Louisiana by the attorney general and courts of said State in forfeiting the charter of the defendant company under and in accordance with the provision of said legislative resolution, as construed by said honorable court, and the validity of which authority was drawn in question in this cause, on the ground of its being repugnant to the Constitution and laws of the United States.

VI.

That the said honorable supreme court erred in affirming and sustaining the validity of the action of the State of Louisiana through her attorney general and courts in forfeiting the charter of petitioner, otherwise than in manner and form provided by said charter itself, whereby plaintiff in error was denied due process of law, and its property taken without due process of law and in violation of the Constitution of the United States, and especially the fourteenth amendment thereto; and the validity of which action was drawn in question in this cause.

VII.

That the said supreme court erred in failing to find that the charter and amended charter of the plaintiff in error constitute a synallagmatic, commutative contract between it on the one side and the State of Louisiana and city of New Orleans on the other,
1615 which contract could not, under the laws in force at the time when said charter and amended charter were granted, be rescinded or dissolved, except upon tender back by the complaining party to the defendant of the price and consideration paid by such defendant under the contract sought to be rescinded or dissolved, which offer and tender were required by the laws of the State of Louisiana existing and in force at the time when said charter and amended charter were granted, and at all times since, and that the decree of forfeiture in this cause, without any decree of *restitutio in integrum* gives a construction to the legislative resolution under which plaintiff's action was brought, violative of the obligation of the charter of plaintiff in error, which charter is a contract protected from impairment by any law of the State of Louisiana by the Constitution of the United States, and especially by article 1, section 10, of said Constitution; and that the validity of said construction

of said legislative resolution and of said decree rendered thereunder *were* drawn in question in this cause.

VIII.

That said supreme court erred in decreeing said forfeiture without a *restitutio in integrum*, because the same constitutes a taking of the property of plaintiff in error by the State of Louisiana without due process of law, and without compensation, and in violation of article XIV of the amendments to the Constitution of the United States, and that the right to so take said property was drawn in question in this cause.

IX.

That said supreme court erred in deciding in favor of the validity of the action of the State of Louisiana, and of the authority exercised under her by her attorney general and courts in this cause, and drawn in question therein, and which, if held valid, deprive plaintiff in error of property without due process of law, and without compensation, and in violation of the Constitution of the United States, and especially of the fourteenth article of the amendments thereto.

X.

1616 That the said supreme court not only erred as set forth and disclosed in the preceding assignment of errors herein numbered VII in manner and form as therein set forth but also further erred in so construing the acts of the legislature of the State of Louisiana constituting the charter of the said New Orleans Water Works Company as to eliminate therefrom and destroy valuable franchises, immunities, rights, exemptions, and privileges therein granted to the said New Orleans Water Works Company by direct unambiguous grant and contract with the State of Louisiana for which the said New Orleans Water Works Company paid a valuable consideration either in money or its equivalent and also rights of like character granted and conferred on said company by lawful implication for like consideration.

XI.

That said supreme court particularly erred in its construction of the meaning and legal import of the fifteenth section of act No. 33 of the acts of the extra session of the Louisiana State legislature of 1877, being a section of the charter of the New Orleans Water Works Company which is in the words and figures following, to wit:

"SEC. 15. Be it further enacted, etc., That the said water works company shall have the right to fix the rates of charges for water: Provided, that the net profits of the company shall not exceed ten

per cent. per annum, and shall publish sworn annual statements of its business and condition; and that the city council shall have the power to appoint a committee, of not less than five, who shall have access to the books of the said company, and make such extracts from the same as they may deem necessary, and in case the said profits shall exceed ten per cent., the city council shall have the right to require said company to reduce the price of water in such manner, and in such proportion, that the profits shall never exceed the above-named rates: *And provided further*, that the rates charged shall never exceed those now paid by the city, and in case said company shall refuse compliance, the demand of said city may be enforced by a writ of mandamus,"

which said section fifteen should have been construed by the said supreme court as conferring upon the said New Orleans Water Works Company a State delegated right and power of legislation about and concerning the rate of charges for water supply, together with the legal presumption of the correctness of such legisla-
1617 tion by the said corporation on the subject of the rate of charges for water supply. That said right of legislation on said subject was and is subject only to the conditions and limitations contained and set forth in said section fifteen. And that by the terms of said section the correctness and legality of the rate of charges for water supply so established can only be impeached or questioned in the special and particular manner designated and pointed out in said section fifteen, that is, through the action of the city council of the city of New Orleans availing itself of the power of visitation provided for in said section and by revision and modification of the water rates established by such legislation of the New Orleans Water Works Company in the manner and form provided in said section fifteen. And that if after such action by the city council of New Orleans the said New Orleans Water Works Company disputed or questioned the correctness of the action of the city council in so establishing water rates said company was and is lawfully entitled to its day in court to test the correctness of such action by the council concerning such water works company's water rates. And that in no event was or is the charter of the said New Orleans Water Works Company subject to forfeiture for any water charge in accord with its own rate established by its own legislation but in excess of the rate so established by the city council of the city of New Orleans until it shall have acquiesced in the water rates established by the council of the city of New Orleans or until it shall have demanded and charged water rates in excess of such water rates as may have been confirmed and established by a court of competent jurisdiction on the writ of mandamus specified in said section 15 wherein there shall have been final decree and the said New Orleans Water Works Company have had its day in court in such litigation.

That the means and method provided in said section 15 of said act No. 33 for fixing and regulating the water rates to be charged

by the defendant, and for compelling this defendant to com-
1618 ply with the rates thus established are a substantial part of the contract between the State of Louisiana, the city of New Orleans and this defendant, and that this contract was protected by the Constitution of the United States from impairment by the State of Louisiana; and that consequently the resolution of the General Assembly, directing an action to forfeit defendant's charter for overcharge in rates, the action thereunder brought for that purpose by the attorney general, and the judgment of the court decreeing such forfeiture on such ground solely on the face of the facts,

1st. That the council of the city of New Orleans had never objected to any water rates charged by the defendant;

2nd. That the said council had never ordered this defendant to change or modify any rate charged:

3rd. That the said council had never brought any mandamus proceeding against this defendant to compel it legally to change its water rates;

4th. That the State of Louisiana had never theretofore complained of any water rates charged by this defendant, and had never demanded that such rates be changed;

5th. That defendant had acted in good faith in fixing its rates under the power granted it;

6th. That the State of Louisiana and the city of New Orleans had acquiesced in the rates charged for more than fifteen years;

7th. That the net profit received by the company never exceeded and never even reached ten per cent. per annum; was an impairment of the obligation of said contract by the State of Louisiana, in contravention of section 10 of article 1 of the Constitution of the United States.

XII.

That the said supreme court erred in that the only averment and allegation contained and set forth in the petition of the State of Louisiana herein wherein overcharge for water supply by the New Orleans Water Works Company is charged to have violated
1619 any alleged established rate of water charge established by the city of New Orleans while that city was the owner of and operated the said water works now owned and operated by the New Orleans Water Works Company is contained and set forth in the fifth subdivision of the petition of the State of Louisiana in the words and figures following, to wit:

"(5.) The said company was, and is prohibited by sec. 15 of its charter from charging for the use of water supplies by it any more than the rates paid to the city of New Orleans in 1877; the legislature meaning thereby, the rates legally fixed and adopted by the city council in 1870, which were the only rates legally in force and legally exacted by the city of New Orleans in 1877; and petitioner avers that the said company has habitually, from 1878 to the present time, illegally exacted and collected greater rates than those legally exacted and collected by the city of New Orleans for same

quantities of water supplies, or same facilities and opportunities for drawing water from its pipes."

And the said supreme court after having judicially found and determined that there never had been in existence any such rates lawfully fixed and adopted and promulgated by the city council of the city of New Orleans in 1870 and that no ordinance of the city of New Orleans of the character or effect averred had ever had legal existence and that there was absolute failure of proof of the existence of any such ordinance or water rates as averred in the said petition. And the fact being that no other rate or water charge is alleged by the State to have been violated by overcharge by the New Orleans Water Works Company, or is set up or contained in said petition or in any manner put at issue therein or could be legitimately tried in said cause. The said supreme court erred in considering against the objection of the said counsel of the New Orleans Water Works Company, depositions and other sources of information and therefrom attempting to construct or create for the purposes of this case another and different schedule or rate of water charges not averred or set forth by the State of Louisiana in its petition herein and erroneously used and considered said schedule and alleged rate of water charges so established by said court as the standard legal rate of water charges obligatory upon the New Orleans Water Works
1620 Company and decreed a forfeiture of the charter of said company because of a conclusion that the rate of water charges collected by the New Orleans Water Works Company was in excess of said new and unpleaded schedule of water rates so established by the said supreme court at variance with the averments of the State of Louisiana in its petition herein, and as to the correctness whereof the said New Orleans Water Works Company never having been in any manner impleaded in any form required by the statutes of the State of Louisiana governing the procedure of courts in such causes that were in force either prior to the time that the charter of the said New Orleans Water Works Company was granted by the State of Louisiana, or at any date since that time.

That the interpretation by the State in her pleadings of said section 15, to the effect that the legislature intended by the water rates then paid to the city of New Orleans to designate such rates as were fixed and established by some law or ordinance of the city of New Orleans, is the true and correct meaning of said act (because such rates could not be fixed in any other way than by an ordinance) and therefor such was the contract between the State and the defendant:

That the court having found that the particular ordinance of 1870, averred in the State's petition as the one contemplated by the legislature, had never been lawfully adopted or promulgated by the city of New Orleans, such finding was the end of the case on that point, and the subsequent action of the court, at the request and instance of the attorney general, acting under the joint resolution aforesaid, in substituting for an ordinance (which alone by the legislative contract could be the measure of defendant's rights and a condition upon which its franchises were granted), a mass of facts *en*

pais, such as the rates charged in particular cases by executive officials of the city to particular persons, (on which issue the defendant was not impleaded), was an impairment by the State of the obligation of defendant's contract, and a taking of defendant's property without due process of law, and without compensation made, in contravention of the Constitution of the United States.

1621 XIII.

That said supreme court erred in adjudging the said several exceptions peremptory and others as pleaded by defendant to the petition of the State and to the interventions were not generally well taken and sufficient in law, and in overruling and giving the same no effect in law in arriving at a decree in this cause.

XIV.

That said honorable supreme court erred in this, that if said resolution or ordinance of the city council of New Orleans referred to by plaintiff in its petition, either by itself or in connection with said joint resolution of the legislature of the State of Louisiana in said petition referred to, be any authority, lawful direction or warrant to the attorney general of the State of Louisiana to institute and prosecute this action, and if the same be held by the courts to be such authority, lawful direction or warrant, then said resolution of said city council as well as said joint resolution of said State legislature, are repugnant to law and to the Constitution of the United States, and especially to section 10 of article one of said Constitution, as impairing the faith of a contract between the defendant and the State of Louisiana, in which the city of New Orleans, an integral part of the State, was chief beneficiary, as well as a party, and bound to observe good faith and fair dealing in respect thereto in its legislation, and that said resolution of said city council, together with said joint resolution of said State legislature are also repugnant to the fourteenth amendment to said Constitution of the United States, in this that they deprive plaintiff in error of its property without due process of law and without compensation made.

XV.

That said supreme court erred in not affirming the judgment of said honorable civil district court, and rendering judgment in favor of plaintiff in error.

1622 Wherefore plaintiff in error prays that the judgment of said supreme court be reversed, and for such further proceedings as law and justice may require.

(Signed) J. R. BECKWITH,
Do. E. B. KRUTTSCHNITT,
Do. E. H. FARRAR,
Do. B. F. JONAS,
Do. E. H. McCALEB,
Attorneys for Petitioner, Plaintiff in Error.

(Endorsed:) No. 13701. Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Company. Assignments of error. Filed 12th February, 1902. (Signed) T. McC. Hyman, clerk.

Copy of Writ of Error.

UNITED STATES OF AMERICA, *ss:*

[SEAL.] The President of the United States of America to the honorable the judges of the supreme court of the State of Louisiana, Greeting:

Because in the record and proceedings, as also in the rendition of the judgment of a plea which is in the said supreme court before you, or some of you, being the highest court of law or equity of the said State in which a decision could be had in the said suit between The State of Louisiana as plaintiff, The City of New Orleans and The Board of Liquidation of the City Debt as intervenors, and The New Orleans Water Works Company as defendant, wherein was drawn in question the validity of a treaty or statute of, or an authority exercised under, the United States, and the decision was against their validity; or wherein was drawn in question the validity of a statute of, or an authority exercised under, said State, on the ground of their being repugnant to the Constitution, treaties,
1623 or laws of the United States, and the decision was in favor of such their validity; or wherein was drawn in question the construction of a clause of the Constitution, or of a treaty, or statute of, or commission held under the United States, and the decision was against the title, right, privilege, or exemption specially set up or claimed under such clause of the said Constitution, treaty, statute, or commission; a manifest error hath happened to the great damage of the said New Orleans Water Works Company, defendant, as by its complaint appears. We being willing that error, if any hath been, should be duly corrected, and full and speedy justice done to the parties aforesaid in this behalf, do command you, if judgment be therein given, that then under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same in the said Supreme Court at Washington, within 30 days from the date hereof, that the record and proceedings aforesaid being inspected, the said Supreme Court may cause further to be done therein to correct that error, what of right, and according to the laws and customs of the United States, should be done.

Witness the Honorable Melville W. Fuller, Chief Justice of the United States, the 10th day of February in the year of our Lord one thousand nine hundred and two.

(Signed) JAMES H. McKENNEY,
Clerk of the Supreme Court of the United States.

Allowed by—
(Signed) R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

(Endorsed:) No. 13701. Supreme court of Louisiana The State of Louisiana *versus* The New Orleans Water Works Co. We certify the within to be a copy of writ of error from the Supreme Court of the United States lodged in the supreme court of Louisiana. (Signed) J. R. Beckwith, E. B. Kruttschnitt, E. H. Farrar, B. F. Jonas, E. Howard McCaleb. Attorneys for the New Orleans Water Works Co. plaintiff in error. Lodged and filed in the supreme court of Louisiana this 12th day of February 1902. (Signed) T. McC. Hyman, clerk.

1624 *Bond for Writ of Error.*

Procuration.

Know all men by these presents, that whereas the New Orleans Water Works Company a corporation created under and by authority of the laws of the State of Louisiana, intends to obtain a writ of error from the Supreme Court of the United States directed to the supreme court of the State of Louisiana to revise and reverse a final judgment and decree of said State supreme court rendered against the said New Orleans Water Works Company defendant in the case of The State of Louisiana *vs.* The New Orleans Water Works Company, No. 13701, of the docket of the said supreme court of the State of Louisiana, and is proceeding to obtain and prosecute such writ of error.

And whereas in order to obtain such writ of error, it is required by law that the said New Orleans Water Works Company shall execute and deliver the bond with adequate sureties required by law in such cases.

And whereas the exact amount of said bond in its principal obligation is by law fixed and determined by the order and discretion of the judge of the supreme court allowing such writ of error at the time of the allowance of such writ, and cannot be ascertained in advance of that time.

And whereas such application and allowance will be applied for beyond the limits of Louisiana.

And whereas we, Robert E. Craig, Chapman H. Hyams, and Albert Baldwin, are willing and have severally agreed and consented to become sureties on said bond with all of the liabilities as surety specified by the laws in respect to suretyship in such bonds and for the amount of the obligation of the principal on said bond as the same shall be fixed and determined by the proper authority vested by law with that power.

Now therefore, in order that such bond may be made and properly executed and delivered, we the said Robert E. Craig, Chapman H. Hyams, and Albert Baldwin, do hereby and by these presents, nominate, constitute and make Ernest B. Kruttschnitt, Esq., of the city of New Orleans, to be our joint and several attorney in fact,
1625 with full and complete authority from us and each of us, to, for us, and in our names make, execute and deliver said bond

for said writ of error, for us as sureties thereon *in solido* to the full extent that the amount of the principal obligation on said bond, as the same may be fixed and determined by the proper authority, and subject us to all of the liability as sureties on said bond required and provided in the law in that behalf.

And in all things to act for us to the full extent that we could act in becoming such sureties on such bond if we were severally present in our proper persons.

And we severally also authorize and empower our said attorney to attach to said bond our affidavits touching upon our respective solvency and sufficiency as such sureties on said bond.

Hereby ratifying all that our said attorney in fact may do in virtue and under the authority of these presents, and also grant unto him full power of substitution by any person of his selection if in his judgment, such substitution shall be expedient.

N. O. La. Feb'y fifth, 1902.

(Signed) ROBERT E. CRAIG.
(Do.) C. H. HYAMS.
(Do.) A. BALDWIN.

Witnesses:
(Sg.) C. H. HYAMS, JR.
C. L. UHLHORN, JR.

Acknowledgment.

Be it known, that on this fifth (5th) day of the month of February, in the year of our Lord 1902, before me the undersigned notary public, duly sworn and qualified in and for the State of Louisiana parish of Orleans, personally came and appeared the above-named, Robert E. Craig, Chapman H. Hyams, and Albert Baldwin, who signed the foregoing document before me and in the presence of the two witnesses whose names are thereunto subscribed as such, being males above the age of fourteen years, residing in this parish, competent witnesses, and the said appearers thereupon declared and acknowledged unto me, on the presence of the said witnesses, that, they signed and executed the said document, viz:—procura-
1626 tion as their act and deed, for the uses and purposes therein set forth.

In witness whereof, I have hereunto set my official hand and seal on the day and date above written.

[SEAL.] (Signed) JOHN B. FISHER, *Not. Pub.*

STATE OF LOUISIANA, }
Parish of Orleans. }

Robert E. Craig, Chapman H. Hyams, and Albert Baldwin, all residents of the State of Louisiana, parish of Orleans, each having been first duly severally sworn, do each for himself severally on his own several oath, say that he is individually worth and possesses

property to the amount of fifty thousand dollars, of his individual ownership and several property, over and above all his debts, liabilities and all property exempt from seizure and sale on execution for the payment of his debts. And that he is individually able to respond to all liability and pay the full amount for which he is or may be made liable or responsible by reason of his execution of the annexed bond as surety thereon, in manner and form as he has so made and executed the same as surety thereon.

(Signed) ROBERT E. CRAIG.
Do. C. H. HYAMS.
Do. A. BALDWIN.

Sworn to and subscribed before the undersigned notary public, this fifth day of February A. D. 1902.

[SEAL.] (Signed) JNO. B. FISHER, *Not. Pub.*

1627 Know all men by these presents, that we, the New Orleans Water Works Company, of New Orleans, Louisiana, and Robert E. Craig, Chapman H. Hyams and Albert Baldwin, as sureties are held and firmly bound unto the State of Louisiana, the City of New Orleans and the Board of Liquidation of the City Debt in the full and just sum of ten thousand dollars, to be paid to the said State of Louisiana, City of New Orleans and the Board of Liquidation of the City Debt their certain attorney, executors, administrators, or assigns; to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, jointly and severally, by these presents.

Sealed with our seals and dated this 10th day of February in the year — our Lord one thousand nine hundred and two.

Whereas, lately at a session of the supreme court of the State of Louisiana in a suit depending in said supreme court, wherein The State of Louisiana was plaintiff and The City of New Orleans and the Board of Liquidation of the City Debt were intervenors, and The New Orleans Water Works Company was defendant, judgment was rendered against The New Orleans Water Works Company, defendant and the said New Orleans Water Works Company having obtained a writ of error, and filed a copy thereof in the clerk's office of the said supreme court to reverse the judgment in the aforesaid suit, and citations directed to the said State of Louisiana, City of New Orleans and Board of Liquidation of the City Debt, citing and admonishing them to be and appear at the Supreme Court of the United States to be holden in Washington, within thirty days from the date thereof.

Now the condition of the above obligation is such, that if said New Orleans Water Works Company shall prosecute its writ to effect, and answer all damages and cost if it fail to make its plea

good then the above obligation to be void else to remain in full force and virtue.

(Signed) THE NEW ORLEANS WATER WORKS COMPANY. [L. S.]
A. BALDWIN, JR., *Pres.* [L. S.]
ROB'T E. CRAIG, [L. S.]
By E. B. KRUTTSCHNITT,
His Ag't & Att'y-in-fact.
C. H. HYAMS,
By E. B. KRUTTSCHNITT,
His Ag't & Att'y-in-fact.
A. BALDWIN,
By E. B. KRUTTSCHNITT,
His Ag't & Att'y-in-fact.

Sealed and delivered in the presence of—
[SEAL.] (Sg.) R. E. CRAIG, *Witness.*
(Sg.) F. E. RIESS, *Witness.*

Approved by—
R. W. PECKHAM,
Associate Justice Supreme Court U. S.

1628 (Endorsed :) No. 13701 Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Company. Bond for writ of error. Filed Feb'y 12, 1902. (Signed) T. McC. Hyman, clerk.

1629 *Agreement of Counsel as to Transcript.*

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

It is hereby agreed in the above-entitled cause as follows, viz:

1st. That the transcript in the matter of the writ of error taken by the New Orleans Water Works Company from the final decree heretofore rendered in this cause to the Supreme Court of the United States, may consist of the pleadings, opinion and judgment of the supreme court of Louisiana, and any bills of exceptions which plaintiff in error may think material; that all the evidence, oral and documentary may be omitted from the transcript, and all the acts of the legislature, whether private or public acts need not be copied, but may be referred to in the printed acts of the legislature of Louisiana, reserving the right to either party to print such acts in their briefs or appendices in the Supreme Court of the United States and any city ordinances offered in evidence may likewise be printed in the brief if the plaintiff in error thinks them material.

2nd. In lieu of the hydrant ledgers, books and inspection certificates and water-rent receipts of the defendant company, the said New Orleans Water Works Company may print as part of said transcript the tabulation of meter receipts, inspection certificates and flat-rate receipts printed by the State as Appendices A, B, and C to plaintiff's brief filed in the supreme court of Lonisiana, the said appendices being accepted as correct, except in so far as they may be corrected by any of the meter receipts, inspection certificates or flat-rate receipts themselves which may form part of the transcript, if plaintiff in error so desires.

3rd. The documents hereinabove referred to and to be omitted from said transcript, need not be taken to the Supreme Court of the United States in original, nor by copies, but the right is reserved to either party to supplement said transcript by causing to be copied and certified any additional papers, documents or portions of the record omitted under the foregoing agreement, at the cost of
1630 plaintiff in error in the first instant, subject to final adjustment by decree of the Supreme Court of the United States, and reserving the right of defendants in error to object to the consideration of any evidence on the issues of which they claim that the Supreme Court has no jurisdiction.

(Signed) WALTER GUION,
Attorney General.

Do. BENJAMIN RICE FORMAN,
Of Counsel for the State of Louisiana.

Do. SAMUEL L. GILMORE,
City Attorney.

(Endorsed:) No. 13701. Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Co. Agreement of counsel as to transcript. Filed March 7th, 1902. (Signed) Paul E. Mortimer, dep. clerk.

Agreement of Counsel as to Transcript.

Supreme Court of Louisiana.

STATE OF LOUISIANA
vs.
NEW ORLEANS WATER WORKS COMPANY. } No. 13701.

In the matter of the writ of error taken by defendant, The New Orleans Water Works Company, from the final decree heretofore rendered in the above-entitled cause to the Supreme Court of the United States, it is agreed as follows:—

1st. Any and all acts of the legislature may be referred to in the printed acts of the General Assembly and need not be copied either in the transcript or annexed to the same; either party reserving the right to cause said acts to be printed as parts of or appendices to briefs in the Supreme Court of the United States.

2nd. The following ordinances contained in Flynn's Digest may be copied from said digest as part of said transcript, to wit:

Ordinance No. 12,026 C. S., found in Flynn's Digest, page IX.

Ordinance No. 10,758 C. S., found in Flynn's Digest, page IX.

Ordinance No. 3,287 C. S., published as sections 3147, 3148
1631 and 3149 of Flynn's Digest, pages 1171 *et seq.* with reservation as to admissibility.

(Signed) B. R. FORMAN,
Attorney for Defendants in Error.

(Signed) WALTER GUION,
Attorney General, Att'y for Defendants in Error.

(Signed) SAM'L L. GILMORE, *City Att'y.*

(Endorsed:) 13701. Supreme court of Louisiana. State of Louisiana *vs.* New Orleans Water Works Co. Agreement of counsel as to transcript. Filed March 7th, 1902. (Sg). Paul E. Mortimer, deputy clerk.

(Here follows Appendix A to plaintiff's brief, marked pp. 1631*a* to 1631*nn*, inclusive.)

No. 13,701.

SUPREME COURT OF LOUISIANA.

STATE OF LOUISIANA,

vs.

NEW ORLEANS WATER WORKS CO.,

APPENDIX A.

TO

PLAINTIFF'S BRIEF.

TABULATION OF THE RECEIPTS OF THE NEW ORLEANS WATER WORKS COMPANY.

(METER MEASUREMENTS.)

In Invoice File Marked "A."

No. 590.
N. O. Water Works Co vs State of Louisiana et al } p. 163

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

American Brewing Company—

	Cubic Feet.	Gallons.			
May 21 to 30, 1891	.....	567,600	@ 15c. per 1,000 gal		85.14
May 30 to June 30	.....	4,639,950	" " " " "		695.99
June 30 to July 31	.....	757,575	" " " " "		113.63
Aug. 31 to Oct. 1	.....	397,878	" " " " "		59.68
Oct. 1 to Oct. 31	.....	199,134	" " " " "		29.87
Oct. 31 to Dec. 31	.....	.....	as per agreement		120.00
Dec. 31 to Jan. 30, 1892	.....	593,367	@ 15c. per 1,000 gal		59.00
Jan. 30 to Feb. 29	.....	548,730	" " " " "		82.30
Feb. 29 to March 31	.....	674,077	" " " " "		101.11
March 31 to April 30	.....	629,460	" " " " "		94.41
April 30 to May 31	.....	672,517	" " " " "		100.85
May 31 to June 30	.....	649,035	" " " " "		97.35
June 30 to July 3	.....	591,330	" " " " "		88.70
July 30 to Aug. 31	.....	624,540	" " " " "		93.65
Aug. 31 to Oct 31	.....	1,366,950	" " " " "		205.05
Oct. 31 to Nov. 30	.....	605,700	" " " " "		90.85
Nov. 30 to Dec. 31	.....	511,575	" " " " "		76.75
Dec. 30, 1892, to Jan. 30, 1893	71,250	534,375	" " " " "	7½ gal. to cubic ft	80.15
Jan. 30 to Feb. 27	50,720	380,400	" " " " "	" " "	57.05
Feb. 27 to March 30	.....	454,650	" " " " "		68.20
March 30 to April 27	.....	579,000	" " " " "		86.85

April 27 to May 29	.....	661,500	" " " " "	99.20
May 30 to June 30	.....	402,000	" " " " "	60.30
June 30 to July 31	.....	636,000	" " " " "	95.40
July 31 to Aug. 31	.....	764,250	" " " " "	114.65
Aug. 31 to Sept. 27	.....	477,225	" " " " "	71.58
Sept. 30 to Oct. 31	68,570	514,275	" " " " " .....7½ gal. to cubic ft...	77.15
Oct. 31 to Nov. 30	45,300	339,750	" " " " " ..... " " " ...	59.95
Dec. 1, 1893, to Jan. 1, 1894	.....	.....	6 months as per agreement.....	350.00
Jan. 1, 1894, to Dec. 1, 1894	.....	.....	" " "	350.00
Dec. 1, 1894, to June 1, 1895	.....	.....	" " "	350.00
June 1, 1895, to Dec. 1, 1895	.....	.....	" " "	350.00
Dec. 1, 1895, to May 1, 1896	.....	.....	" " "	350.00
May 31, 1896, to Nov. 30, 1896	.....	.....	" " "	350.00
Nov. 30, 1896, to May 31, 1897	.....	.....	" " "	350.00
May 30, 1896, to Nov. 30, 1897	.....	.....	" " "	350.00
Nov. 30, 1897, to May 30, 1898	.....	.....	" " "	350.00
May 30, 1898, to Nov. 30, 1898	.....	.....	" " "	350.00
Nov. 30, 1898, to May 30, 1899	.....	.....	" " "	350.00
Army, L. C.—				
Nov. 16, to Dec. 30, 1898	870	7830	@ 35c. per 1,000 gal.....9 gal. to cubic ft....	2.75
Dec. 31, 1898, to Jan. 31, 1899	950	8,550	" " " " " .....9 " " "	3.00
Oct. 31, 1898, to Nov. 30, 1898	1,090	9,810	" " " " " .....9 " " "	3.45
Sept. 30 to Oct. 31, 1898	1,550	13,950	" " " " " .....9 " " "	4.50
Aug. 31 to Sept. 30, 1898	1,930	17,370	@ 30c. per 1,000 gal.....9 " " "	5.20
July 30 to Aug. 31, 1898	2,710	24,390	" " " " " .....9 " " "	7.30

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.		
June 29 to July 27, 1898.....	2,240	20,160	" " " " " ..... " " "	6.05
Jan. 1, 1895, to Jan. 1, 1896, yearly supply.....			Mineral Water Factory, 6 H.-P. boiler, horse & wagon.	75.00
Army, L. C.				
Jan. 1, 1888, to Jan. 1, 1889 (yearly supply).....			Family, steam bottling, 2 horses 2 wagons.....	50.00
Adray, E.—				
July 31, to Sept. 29, 1894.....	930	6,975	@ 40c. per 1,000 gal.....7½ gal. to cubic ft...	2.80
" " " "	530	3,975	" " " " " ..... " " " ...	1.60
Buckley, Jas. & Co.—				
Nov. 29, 1897, to Jan. 27, 1898.....	530	5,300	@ 40c. per 1,000 gal.....10 gal. to cubic ft...	2.10
Feb. 28, 1898, to March 31, 1898....	500	5,000	" " " " " ..... " " " ...	2.00
July 31 to Sept. 30.....	1,540	15,400	@ 30c. per 1,000 gal..... " " " ...	4.60
Sept. 30 to Oct. 31, 1897.....	2,760	27,600	" " " " " ..... " " " ...	8.30
Oct. 31 to Nov. 30, 1897.....	1,760	17,600	" " " " " ..... " " " ...	5.30
Sept. 27, 1898, to Feb. 13, 1899.....	1,920	21,120	@ 35c. per 1,000 gal.....11 gal. to cubic ft...	7.40
July 26 to Sept. 30, 1898.....	690	6,900	" " " " " .....10 gal. to cubic ft...	2.40
May 26, to July 26, 1898.....	680	6,800	" " " " " ..... " " " ...	2.40
March 27, 1898, to May 26, 1898.....	510	5,100	" " " " " ..... " " " ...	1.80
May 30 to July 31, 1897.....	790	11,060	@ 25c. per 1,000 gal.....14 gal. to cubic ft...	2.75
April 30 to May 30, 1897.....	640	8,000	" " " " " .....12½ gal. to cubic ft...	2.00
Jan. 29 to March 29, 1897.....	1,000	12,500	" " " " " ..... " " " ...	3.10

Dec. 31, 1897, to Jan. 30, 1898.....	910	11,375	" " " " "	..... " " " ...	2.85
Nov. 30 to Dec. 31, 1896.....	1,290	16,125	" " " " "	..... " " " ...	4.05
Aug. 27, 1896, to Oct. 31, 1896.....	580	7,250	" " " " "	..... " " " ...	1.80
July 31 to Aug. 31, 1896.....	450	5,625	" " " " "	..... " " " ...	1.40
April 27 to June 26, 1896.....	690	8,625	" " " " "	..... " " " ...	2.15
March 31 to April 30, 1896.....	990	7,425	" " " " "	.....7½ gals. to cubic ft...	1.85
Dec. 28, 1896, to Feb. 29, 1897.....	690	5,175	" " " " "	..... " " " ...	1.30
Sept. 26 to Dec. 28, 1895.....	1,540	5,550	" " " " "	.....3 60-154 gal cu. ft...	2.90
Aug. 27 to Sept. 26, 1895.....	1,120	8,400	" " " " "	.....7½ gal. to cubic ft...	2.10
June 27 to Aug. 28, 1895.....	1,580	11,850	" " " " "	..... " " " ...	2.95
April 30 to June 29, 1895.....	1,560	11,700	" " " " "	..... " " " ...	2.90
March 30 to April 29, 1895.....	820	6,150	" " " " "	..... " " " ...	1.50
Feb. 28 to March 30, 1895.....	580	4,350	" " " " "	..... " " " ...	1.10
Dec. 29, 1894, to Jan. 31, 1895.....	1,120	8,400	" " " " "	..... " " " ...	2.10
Oct. 30 to Nov. 29, 1894.....	2,970	22,275	" " " " "	..... " " " ...	5.55
Sept. 29 to Oct. 30, 1894.....	1,500	11,250	" " " " "	..... " " " ...	2.80
Aug. 31 to Sept. 29, 1894.....	1,710	12,825	" " " " "	..... " " " ...	3.20
July 31 to Aug. 30, 1894.....	880	6,600	" " " " "	..... " " " ...	1.65
July 6 to July 31	650	4,875	" " " " "	..... " " " ...	1.20
Jan. 31 to June 30.....	2,150	16,125	" " " " "	..... " " " ...	6.75
Dec. 30, 1893, to Jan. 31, 1894.....	1,070	8,005	" " " " "	..... " " " ...	2.00
Nov. 30 to Dec. 31, 1893.....	1,060	7,950	" " " " "	..... " " " ...	2.00
Oct. 28 to Nov. 30, 1893.....	*1,630	*12,225	" " " " "	..... " " " ...	3.05
Sept. and Oct., 1893.....	*935	*7,014	" " " " "	..... " " " ...	1.75

*Average 2 months.

5

16210

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.			
Brunswig, L. N. & Co.—					
Nov. 26, 1898, to Dec. 30	10,860	81,900	@ 25c. per 1,000 gal	7½ gal. to cubic ft.	20.45
Oct. 30 to Nov. 31, 1898	8,610	64,570	" " " " "	" " "	16.15
July 27 to Aug. 29	3,690	27,675	@ 20c. per 1,000 gal	" " "	5.55
Aug. 31 to Sept. 30, 1898	8,880	66,600	@ 25c. per 1,000 gal	" " "	16.65
Sept. 30 to Oct. 31, 1898	7,980	59,850	" " " " "	" " "	15.00
Braun, Peter—					
April 27 to May 27, 1898	250	2,500	@ 40c. per 1,000 gal	10 gal. to cubic ft.	1.00
March 30 to April 30, 1898	250	2,500	" " " " "	" " "	1.00
Feb. 28 to March 31, 1898	120	2,500	" " " " "	20 5-6 gal. to cubic ft.	1.00
Jan. 31 to Feb. 29, 1898	210	3,900	" " " " "	18 4-7 gal. to cubic ft.	1.55
June 29 to July 28, 1898	110	2,880	@ 35c. per 1,000 gal	26 2-11 gal. to cubic ft	1.00
May 27 to June 29, 1898	230	2,880	" " " " "	12 12-23 gal to cu. ft	1.00
July 30 to Aug. 31, 1898	140	2,880	" " " " "	20 4-7 gal. to cubic ft.	1.00
Aug. 31 to Sept. 30, 1898	160	2,880	" " " " "	18 gal. to cubic ft.	1.00
Sept. 30 to Oct. 31, 1898	100	2,880	" " " " "	28 4-5 gal. to cubic ft.	1.00
Oct. 31 to Nov. 30, 1898	180	2,880	" " " " "	16 gal. to cubic ft.	1.00
Clark, Leavel & Co.—					
July 30 to Aug. 31, 1897	2,360	17,700	@ 40c. per 1,000 gal	7½ gal. to cubic ft.	7.05
May 25 to June 28, 1898*	8,920	71,360	@ 25c. per 1,000 gal	8 gal. to cubic ft.	17.85

Nov. 26 to Dec. 27, 1895	Bros.,	2,270	17,025	"	"	"	"	"	.....	7½ gal. to cubic ft	...		4.25
Oct. 31 to Nov. 30, 1895		2,870	21,525	"	"	"	"	"	.....	"	"	"	... 5.40
Dec. 31, 1895, to Jan. 30, 1896		2,410	18,075	"	"	"	"	"	.....	"	"	"	... 4.50
Jan. 31 to Feb. 29, 1896		1,920	14,400	"	"	"	"	"	.....	"	"	"	... 3.60
Feb. 29 to March 31, 1896		1,990	14,925	"	"	"	"	"	.....	"	"	"	... 3.75
April 30 to May 31, 1896		1,680	12,600	"	"	"	"	"	.....	"	"	"	... 3.15
March 31 to April 30, 1896		1,800	13,500	"	"	"	"	"	.....	"	"	"	... 3.40
May 31 to June 30, 1896		2,330	17,475	"	"	"	"	"	.....	"	"	"	... 4.35
Sept. 30 to Oct. 31, 1895		2,720	20,400	"	"	"	"	"	.....	"	"	"	... 5.10
June 30 to July 31, 1896		2,360	17,700	"	"	"	"	"	.....	"	"	"	... 4.40
July 30 to Aug. 31, 1896		4,030	30,225	"	"	"	"	"	.....	"	"	"	... 7.55
Aug. 31 to Sept 30, 1896		3,580	26,850	"	"	"	"	"	.....	"	"	"	... 6.70
Sept. 30 to Oct. 31, 1896		4,420	33,150	"	"	"	"	"	.....	"	"	"	... 8.30
Oct. 30 to Nov. 31, 1896		4,780	35,850	"	"	"	"	"	.....	"	"	"	... 8.95
Nov. 30 to Dec. 31, 1896		2,730	20,475	"	"	"	"	"	.....	"	"	"	... 5.10
Dec. 31 to Jan. 30, 1897		3,050	22,875	"	"	"	"	"	.....	"	"	"	... 5.70
Jan. 30 to Feb. 27, 1897		3,340	25,050	"	"	"	"	"	.....	"	"	"	... 6.25
Feb. 27 to March 31, 1897		3,420	25,650	"	"	"	"	"	.....	"	"	"	... 6.40
May 27 to April 30, 1897		3,640	27,300	"	"	"	"	"	.....	"	"	"	... 6.80
May 31 to June 30, 1897		3,420	25,650	"	"	"	"	"	.....	"	"	"	... 6.40
April 30 to May 31, 1897		2,480	18,600	"	"	"	"	"	.....	"	"	"	... 4.65
March 31 to April 30, 1897		2,510	37,650	@ 30c. per 1,000 gal.					.....	15 gal. to cubic ft	...		11.30
Jan. 31 to Feb. 28, 1898		3,750	28,125	"	"	"	"	"	.....	7½ gal. to cubic ft	...		8.45
Dec. 31, 1897, to Jan. 31, 1898		3,750	28,125	"	"	"	"	"	.....	"	"	"	... 8.45

*Two months, May and June.

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

Cosmopolitan Hotel—

	Cubic Feet.	Gallons.		
May 5, 1894, to May 5, 1895	.....	.....	For hose box (only)	15.00
May 5, 1895, to May 5, 1896	.....	.....	" " "	15.00
May 5, 1896, to May 5, 1897	.....	.....	" " "	15.00
May 5, 1897, to May 5, 1898	.....	.....	" " "	15.00
May 5, 1898, to May 5, 1899	.....	.....	" " "	15.00
Dec. 28, 1891, to Jan. 30, 1892	.....	105,030	@ 30c. per 1,000 gal.	31.50
Jan. 30, 1892, to Feb. 29, 1892	.....	201,187	" " " " "	60.35
Feb. 29, 1892, to March 31, '92 (Cafe)	.....	237,190	" " " " "	71.15
March 31, '92, to April 30, '92	.....	205,110	" " " " "	61.53
April 30, '92, to May 31, '92	.....	52,432	" " " " "	15.70
May 31, '92, to June 30, '92 (Cafe)	.....	134,700	" " " " "	40.40
June 30, '92, to July 30, '92 (Cafe)	.....	73,250	" " " " "	21.95
July 30, '92, to Aug. 31, 92 (Cafe)	.....	53,085	" " " " "	15.90
Aug. 31, '92, to Oct. 31, '92 (Cafe)	.....	130,012	" " " " "	39.00
Oct. 31, '92, to Nov. 30, '92 (Cafe)	.....	113,925	" " " " "	34.15
Aug. 31 to Sept. 30, 1897 (Hotel)	7,520	56,400	" " " " " 7½ gal. to cubic ft	16.90
Sept. 30 to Oct. 31, 1897 (Hotel)	4,800	36,000	" " " " " " " "	10.80
Oct. 31 to Nov. 30, 1897 (Hotel)	2,840	28,800	" " " " " 10 10-71 gal to cubic ft	8.65
Nov. 30 to Dec. 31, 1897 (Hotel)	10,590	79,425	@ 25c. per 1,000 gal. 7½ gal. to cubic ft	19.85
Dec. 31, '97, to Jan. 31, '98 (Hotel)	10,000	75,000	" " " " " " " "	18.75
Jan. 31 to Feb. 28, 1898 (Hotel)	5,250	39,375	@ 30c. per 1,000 ft " " "	11.80

Feb. 28 to March 31, 1898 (Hotel)....	2,350	17,625	" " " " "	..... " " " ...	5.30
March 31 to April 30, 1898 (Hotel)...	4,680	35,100	" " " " "	..... " " " ...	10.55
April 29 to May 28, 1898 (Hotel)....	2,920	21,900	" " " " "	..... " " " ...	6.55
May 28 to June 30, 1898 (Hotel)....	1,230	9,375	@ 35c. per 1,000 gal	..... " " " ...	3.30
June 30 to July 29, 1898 (Cafe)....	4,750	35,625	@ 30c. per 1,000 ft	..... " " " ...	10.70
July 29 to Aug. 31, 1898 (Hotel)...	3,630	27,225	" " " " "	..... " " " ...	8.15
Aug. 31 to Sept. 30, 1898 (Cafe)....	2,720	20,400	" " " " "	..... " " " ...	6.10
Dec. 1 to 30, 1892 (Cafe).....	.....	49,200	" " " " "	.....	14.76
Dec. 30, '92, to Jan. 30, '93 (Cafe)....	8,130	60,975	" " " " "	.....7½ gal. to cubic ft...	18.30
Jan. 30 to Feb. 27, 1893 (Cafe).....	6,586	49,395	" " " " "	..... " " " ...	15.80
Feb. 27 to March 30, 1893 (Cafe)....	.....	67,050	" " " " "	.....	20.10
May 29 to June 30, 1893 (Cafe).....	.....	164,000	" " " " "	.....	49.20
June 30 to July 31, 1893 (Cafe).....	.....	182,250	" " " " "	.....	54.65
July 31 to Aug. 31, 1893 (Cafe).....	.....	194,250	" " " " "	.....	58.25
Aug. 31 to Sept. 7, 1893 (Cafe).....	.....	176,250	" " " " "	.....	52.87
Oct. 31 to Nov. 30, 1893 (Hotel).....	22,330	167,475	" " " " "	.....7½ gal. to cubic ft...	50.24
Nov. 30 to Dec. 31, 1893 (Hotel)....	21,600	162,000	" " " " "	..... " " " ...	48.60
Dec. 30, '93, to Jan. 31, '94 (Hotel)..	18,310	137,300	" " " " "	..... " " " ...	41.20
Jan. 31 to Feb. 28, 1894 (Hotel)....	19,260	175,770	" " " " "	.....9 gal. to cubic ft....	52.73
Feb. 28 to March 31, 1894 (Hotel)...	30,700	230,250	" " " " "	.....7½ gal. to cubic ft...	69.07
March 31 to April 30, 1894 (Hotel)...	50,200	376,500	" " " " "	..... " " " ...	112.95
April 30 to May 31, 1894 (Hotel)....	54,000	405,000	" " " " "	..... " " " ...	121.50
May 31 to June 30, 1894 (Hotel)....	57,350	430,125	" " " " "	..... " " " ...	129.05
June 30 to July 31, 1894 (Hotel)....	61,040	457,800	" " " " "	..... " " " ...	137.35
July 31 to Aug. 31, 1894 (Hotel)....	62,310	467,325	" " " " "	..... " " " ...	140.20

1631/2

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

Aug. 31 to Sept. 29, 1894 (Hotel)....	73,700	552,750	" " " " "	" " " ...	16.582
Sept. 29 to Oct 30, 1894 (Hotel)....	90,030	675,225	" " " " "	" " " ...	202.55
Oct. 30 to Nov. 29, 1894.....	84,620	634,650	@ 25c. per 1,000 gal.....	7½ gal. to cubic ft...	158.65
Nov. 29 to Dec. 31, 1894	40,400	303,000	@ 30c. per 1,000 gal.....	" " " ...	90.90
Dec. 31, 1894, to Jan. 31, 1895	21,060	157,420	" " " " "	" " " ...	47.38
Jan. 31 to Feb. 28, 1895	8,160	376,500	" " " " "	46 19-136 gal. cubic ft.	112.95
Feb. 28 to March 30, 1895	49,200	369,000	" " " " "	7½ gal. to cubic ft...	110.70
March 30 to April 29, 1895	36,370	272,775	" " " " "	" " " ...	81.85
April 30 to May 31, 1895	41,570	311,775	" " " " "	" " " ...	93.55
May 31 to June 29, 1895	27,850	208,875	" " " " "	" " " ...	62.65
June 29 to July 31, 1895	50,420	378,150	" " " " "	" " " ...	113.45
July 29 to Aug. 30, 1895	31,630	237,225	" " " " "	" " " ...	71.15
Aug. 30 to Sept. 28, 1895	32,410	243,075	" " " " "	" " " ...	72.90
Sept. 30 to Oct. 31, 1895	42,490	318,675	" " " " "	" " " ...	95.60
Oct. 31 to Nov. 30, 1895	37,600	282,000	" " " " "	" " " ...	84.60
Nov. 30 to Dec. 30, 1895	28,900	216,750	" " " " "	" " " ...	65.00
Dec. 31, 1895, to Jan. 31, 1896	34,300	257,250	" " " " "	" " " ...	77.20
Jan. 31 to Feb. 29, 1896	26,600	199,500	" " " " "	" " " ...	59.85
Feb. 29 to March 31, 1896	.....	224,500	" " " " "	(See receipt that date)	67.35
April 30 to May 31, 1896	33,620	252,150	" " " " "	7½ gal. to cubic ft...	75.65
April 30 to May 31, 1896	31,300	234,750	" " " " "	" " " ...	70.40
May 31 to June 30, 1896	41,100	378,120	" " " " "	9.2 gal. to cubic ft...	113.40
June 30 to July 31, 1896	44,200	406,640	" " " " "	" " "	122.00

Aug 30 to Aug. 31, 1896	43,200	397,440	" " " " "	" " "	119.25
Sep. 31 to Sept. 30, 1896	57,000	524,400	" " " " "	" " "	157.30
No. 30 to Oct. 31, 1896	9,640	354,750	" " " " "	36.8 gal. to cubic ft..	106.40
De 30 to Nov. 31, 1896	43,040	395,960	" " " " "	9.2 gal. to cubic ft...	118.80
Jan. 30 to Dec. 31, 1896	44,200	406,640	@ 15c. p er 1,000 gal.....	" " "	61.00
Fe. 31, 1896, to Jan. 30, 1897	47,100	577,760	" " " " "	12.26 gal. to cubic ft.	86.65
Ma 30 to Feb. 27, 1897	33,300	566,650	" " " " "	17 1-66 gal. to cubic ft	85.00
Ap. 27 to March 31, 1897	.....	566,650	" " " " "	....	85.00
Mrch 29 to April 30, 1897	19,280	177,375	@ 30c. per 1,000 gal.....	9.2 gal. to cubic ft...	53.20
Ju il 30 to May 31, 1897	32,920	302,860	" " " " "	" " "	90.85
Jun 31 to June 30, 1897	18,100	166,520	" " " " "	" " "	49.95
Aue 30 to July 31 ,1897	.....	.....	" " " " "	....	*50.00
Sey 31 to Aug. 31, 1897	.....	166,670	" " " " "	....	*50.00
Oc					
No *Consumers' Seltzer Co.*—					
Dec. 31 to Sept. 29, 1894	4,780	35,850	@ 25c. per 1,000 gal.....	7½ gal. to cubic ft...	8.95
ct. 29 to Oct. 30, 1894	4,180	31,350	" " " " "	" " "	7.80
v. 28 to March 30, 1895	4,130	30,975	" " " " "	" " "	7.75
Dec. 29 to Dec. 31, 1894	3,430	25,725	" " " " "	" " "	6.45
rch 30 to April 29, 1895	5,140	38,550	" " " " "	" " "	9.65
Oril 30 to May 31, 1895	4,710	35,325	" " " " "	" " "	8.85
Dey 31 to June 29, 1895	5,430	40,725	" " " " "	" " "	10.20
ne 29 to July 31, 1895	4,420	33,525	" " " " "	" " "	8.40
Oey 30 to Aug. 31, 1895	2,210	66,000	" " " " "	29 191-221 gal c. ft..	16.50

*Estimated.

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.						
Aug. 31 to Sept. 30, 1895	.....	44,000	"	"	"	"	"	.... 11.00
Sept. 30 to Oct. 31, 1895	7,200	54,000	"	"	"	"	"	.....7½ gal. to cubic ft... 13.50
Oct. 31 to Nov. 30, 1895	3,100	48,000	"	"	"	"	"	.....15 15-31 gal. to cu. ft 12.03
Nov. 30 to Dec. 30, 1895	1,810	26,550	@ 25c. per 1,000 gal					.....14 121-181 gal. cu. ft. 6.60
Dec. 31, 1895, to Jan. 31, 1896	1,470	22,000	"	"	"	"	"	.....15 gal. to cubic ft.... 5.50
March 31 to April 30, 1896	4,380	32,850	"	"	"	"	"	.....7½ gal to cubic ft... 8.20
April 30 to May 31, 1896	5,130	38,475	"	"	"	"	"	..... " " " ... 9.60
May 31 to June 30, 1896	5,200	39,000	"	"	"	"	"	..... " " " ... 9.75
June 30 to July 31, 1896	5,400	40,500	"	"	"	"	"	..... " " " ... 10.10
July 31 to Aug. 31, 1896	6,000	45,000	"	"	"	"	"	..... " " " ... 11.25
Aug. 31 to Sept. 30, 1896	4,350	32,625	"	"	"	"	"	..... " " " ... 8.15
Sept. 30 to Oct. 31, 1896	3,570	26,775	"	"	"	"	"	..... " " " ... 6.70
Oct. 30 to Nov. 31, 1896	2,980	22,350	"	"	"	"	"	..... " " " ... 5.60
Nov. 30 to Dec. 31, 1896	2,710	20,325	"	"	"	"	"	..... " " " ... 5.10
Dec. 31, 1896, to Jan. 30, 1897	3,210	24,075	"	"	"	"	"	..... " " " ... 6.00
Jan. 30 to Feb. 27, 1897	2,320	17,400	"	"	"	"	"	..... " " " ... 4.35
Feb. 27 to March 31, 1897	2,560	19,200	"	"	"	"	"	..... " " " ... 4.80
March 29 to April 30, 1897	3,020	25,670	"	"	"	"	"	..... 8½ gal. to cubic ft... 6.40
April 30 to May 31, 1897	4,210	42,100	"	"	"	"	"	..... 10 gal. to cubic ft... 10.50
May 31 to June 30, 1897	3,070	30,700	"	"	"	"	"	..... " " " ... 7.65
June 30 to July 31, 1897	2,570	38,550	"	"	"	"	"	.....15 gal. to cubic ft... 9.65
July 30 to Aug. 31, 1897	4,300	43,000	"	"	"	"	"	..... 10 gal. to cubic ft... 10.75

Aug. 31 to Sept. 30, 1897	4,030	40,300	" " " " "	" " "	"	10.05
Sept. 30 to Oct. 31, 1897	2,860	28,600	" " " " "	" " "	"	7.15
Nov. 30 to Dec. 31, 1897	2,190	16,425	" " " " "	7½ gal to cubic ft		4.10
Dec. 31, 1897, to Jan. 31, 1898	2,430	24,300-5475	" " " " "	10 gal. to cubic ft		7.40
Jan. 31 to Feb. 28, 1898	2,140	21,400	" " " " "	" " "	"	5.35
Feb. 28 to March 31, 1898	3,000	30,000	" " " " "	" " "	"	7.50
March 31 to April 30, 1898	2,500	25,000	" " " " "	" " "	"	6.25
April 29 to May 30, 1898	3,750	37,500	" " " " "	" " "	"	9.35
May 30 to June 29, 1898	4,000	40,000	" " " " "	" " "	"	10.00
June 29 to July 28, 1898	2,860	28600	" " " " "	" " "	"	7.15
July 30 to Aug. 31, 1898	4,060	40,600	" " " " "	" " "	"	10.15
Aug. 31 to Sept. 30, 1898	3,250	32,506	" " " " "	" " "	"	8.10
Sept. 30 to Oct. 31, 1898	2,870	35,875	" " " " "	12½ gal. to cubic ft		8.95
Oct. 31 to Nov. 30, 1898	2,080	26,000	" " " " "	" " "	"	6.50
Nov. 28 to Dec. 30, 1898	1,880	23,500	" " " " "	" " "	"	5.85
Dec. 31, 1898, to Jan. 31, 1899	2,180	27,250	" " " " "	" " "	"	6.80

Denechaud, E. F.—

Dec. 1, 1886, to Dec. 1, 1887	.....	.....	Hotel, 1 arroom, bath, 3 closets, range, 4 sinks, 3 urinals, washroom	200.00
Oct. 5, 1895, to Oct. 5, 1896	.....	.....	Hose box only	20.00
Dec. 1, 1887, to Dec. 1, 1888	.....	.....	Hotel, 5 water closets, bath, 3 urinals, 3 sinks, 1 wash basin	175.00
Oct. 5, 1895, to Oct. 1896	.....	.....	Hose box only	20.00

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

Denechaud Hotel—

	Cubic Feet.	Gallons.		
Dec. 31, 1893, to Dec. 31, 1894.....	.....	.....	Hotel, 2 baths, 4 w. closets, range, sink, urinal, 2 w. basins	175.00
Jan. 1, 1895, to Jan. 1, 1896.....	.....	.....	Office urinal and w. closet.....	18.00
Dec. 21, 1890, to Dec. 21, 1891.....	.....	.....	Hotel, 3 w. closets, bath, range, 3 sinks, and w. basin..	150.00
Dec. 1, 1889, to Dec. 1, 1890.....	.....	.....	Hotel, bath, 2 w. closets, range, 3 sinks, and w. basin..	150.00
Dec. 1, 1888, to Dec. 1, 1899.....	.....	.....	Hotel, bath, 3 w. closets, range, sink, 3 urinals, w. basin	150.00
March 31 to June 30, 1897..... ..	5,930	44,475	@ 30c. per 1,000 gal.....7½ gal. to cubic ft...	13.35
June 30 to July 31, 1897.....	3,670	27,525	" " " " " ..... " " " ...	8.25
July 30 to Aug. 31, 1897.....	5,180	38,850	@ 30c. per 1,000 gal.....7½ gal. to cubic ft...	11.65
Aug. 31 to Sept. 30, 1897	3,940	29,550	" " " " " ..... " " " ...	8.85
Oct. 31 to Nov. 30, 1897	2,430	18,225	" " " " " ..... " " " ...	5.45
Nov. 30 to Dec. 31, 1897	2,800	21,000	" " " " " ..... " " " ...	6.30
Dec. 31, 1895, to Jan. 31, 1896	8,100	60,750	" " " " " ..... " " " ...	18.20
Jan. 31, 1896, to Feb. 29, 1896	5,500	41,250	" " " " " ..... " " " ...	12.35
March 31, to April 30, 1896	3,100	23,200	" " " " " ..... " " " ...	6.95
April 30 to May 31, 1896	3,180	13,850	" " " " " .....4-35 gal. to cubic ft...	4.15
May 31 to June 30, 1896	3,300	33,000	" " " " " .....10 gal. to cubic ft...	9.90
June 30 to July 31, 1896	4,140	41,400	" " " " " ..... " " " ...	12.40
July 31 to Aug. 31, 1896	4,460	44,600	" " " " " ..... " " " ...	13.40
Aug. 31 to Sept. 30, 1896	4,850	48,500	" " " " " ..... " " " ...	14.55
Sept. 30 to Oct. 31, 1896	2,620	26,200	" " " " " ..... " " " ...	7.85
Oct. 31 to Nov. 30, 1896	2,850	28,500	" " " " " ..... " " " ...	8.55

Nov. 30 to Dec. 31, 1896	3,300	33,000	" " " " "	" " "	9.90
Oct. 31 to Nov. 30, 1895	4,510	33,825	" " " " "	7½ gal. to cubic ft	10.15
March 30 to April 29, 1895	5,030	37,725	" " " " "	" " "	11.30
Dec. 29, 1894, to Jan. 31, 1895	4,520	33,900	" " " " "	" " "	10.15
Jan. 31 to Feb. 28, 1895	.....	48,225	" " " " "	....	14.45
Dec. 31, 1898, to Jan. 31, 1899	5,600	42,000	" " " " "	7½ gal. to cubic ft	12.60
Nov. 26 to Dec. 28, 1898	5,510	41,325	" " " " "	" " "	12.40
Oct. 31 to Nov. 30, 1898	2,720	20,400	" " " " "	" " "	6.10
Sept. 30 to Oct. 31, 1898	3,490	26,175	" " " " "	" " "	7.85
Aug. 31 to Sept. 30, 1898	.....	.....	Estimated	....	3.50
July 30 to Aug. 31, 1898	3,330	24,975	@ 30c. per 1,000 gal	7½ gal. to cubic ft	7.50
June 28 to July 26, 1898	3,500	26,250	" " " " "	" " "	7.85
May 26 to June 28, 1898	3,540	26,550	" " " " "	" " "	7.95
April 27 to May 26, 1898	2,660	19,950	" " " " "	" " "	6.00
May 31 to April 30, 1898	5,440	40,800	" " " " "	" " "	12.25
Feb. 28 to March 31, 1898	6,740	50,550	" " " " "	" " "	15.15
Dec. 31, 1897, to Jan. 31, 1898	5,690	42,675	" " " " "	" " "	12.80
Dec. 31, 1896, to Jan. 30, 1897	3,960	39,600	" " " " "	10 gal. to cubic ft	11.90
Feb. 27 to March 31, 1897	5,410	54,100	" " " " "	" " "	16.25
March 29 to April 30, 1897	1,830	18,300	" " " " "	" " "	
March 29 to April 30, 1897	2,260	16,950	" " " " "	7½ gal. to cubic ft	10.55
Fabacher, L. & Bros.—					
March 31 to April 30, 1896	1,810	13,575	@ 30c. per 1,000 gal	7½ gal. to cubic ft	4.05
Feb. 29 to March 31, 1896	1,160	15,500	" " " " "	13 21-58 gal. cu. ft	4.65

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.		
Oct. 19, 1899, to Oct. 19, 1900	.....	.....	Furnished rooms, 2 baths, 4 w. closets	55.00
Oct. 19, 1898, to Oct. 19, 1899	.....	.....	Furnished rooms, 2 baths, 4 w. closets	55.00
May 1, 1897, to May 1, 1898	.....	.....	Family, 3 hydrants, 2 baths, 2 w. closets, range, 2 sinks, 2 w. basins, 1.... garden, fountain, 4 horses and 2 buggies	75.00
Dr. Ford Bros.—				
Dec. 31, 1898, to Jan. 31, 1899.....	1,260	11,340	@ 35c. per 1,000 gal.....9 gal. to cubic ft...	3.95
April 29 to May 31, 1899.....	1,650	12,375	" " " " " .....7½ gal. to cubic ft...	4.35
Feb. 28 to March 31, 1899	.....	11,970	" " " " " .....Estimated	4.20
March 28 to April 26, 1899.....	1,440	10,800	" " " " " .....7½ gal. to cubic ft...	3.80
May 25 to June 28, 1898.....	1,690	12,675	" " " " " ..... " " " ...	4.45
June 28 to July 26, 1898	1,790	13,425	" " " " " ..... " " " ...	4.50
Nov. 30 to Dec. 31, 1896.....	1,600	12,600	@ 40c. per 1,000 gal..... " " " ...	4.81
Oct. 31 to Nov. 30, 1896	2,450	18,375	" " " " " ..... " " " ...	7.35
Sept. 30 to Oct. 31, 1896	2,100	15,750	" " " " " ..... " " " ...	6.30
Aug. 31 to Sept. 30, 1896	2,170	16,275	" " " " " ..... " " " ...	6.50
July 30 to Aug. 31, 1896	1,580	11,850	" " " " " ..... " " " ...	4.75
June 30 to July 31, 1896	1,350	10,125	" " " " " ..... " " " ...	4.05
May 31 to June 30, 1896	1,840	13,800	" " " " " ..... " " " ...	5.50
March 31 to May 27, 1896	.....	20,475	" " " " " .....Estimated	8.20
May 31 to June 30, 1896	2,900	21,750	" " " " " .....7½ gal. to cubic ft...	8.70

July 30 to Aug. 31, 1896	2,630	19,975	" " " " "	" " "	8.00
June 30 to July 31, 1897	2,950	22,125	" " " " "	" " "	8.85
April 30 to May 31, 1897	2,250	16,875	" " " " "	" " "	6.70
May 29 to April 30, 1897	1,270	9,525	" " " " "	" " "	3.80
Sept. 30 to Oct. 31, 1897	880	6,600	" " " " "	" " "	2.65
Jan. 30 to Feb. 27, 1897	1,680	12,600	" " " " "	" " "	5.05
Feb. 27 to March 31, 1897	2,700	20,250	" " " " "	" " "	8.10
Dec. 31, 1896, to Jan. 30, 1897	1,720	12,900	" " " " "	" " "	5.15
Nov. 30 to Dec. 31, 1897	380	5,000	" " " " "	13 3-19 gal. to cubic ft.	2.00
Oct 31 to Nov. 30, 1897	220	5,000	" " " " "	22 8-11 gal. to cubic ft.	2.00
Feb. 28 to March 31, 1898	750	5,625	" " " " "	7½ gal. to cubic ft	2.25
Jan. 31 to Feb. 28, 1898	840	6,300	" " " " "	" " "	2.50
Dec. 31, 1897, to Jan. 31, 1898	620	5,000	" " " " "	8 2-31 gal. to cubic ft.	2.00
April 29 to May 25, 1898	1,250	9,375	" " " " "	7½ gal. to cubic ft	3.75
March 31 to April 30, 1898	.....	5,000	" " " " "	Estimated	2.00
Nov. 26 to Dec. 28, 1898	770	6,930	@ 35c. per 1,000 gal	9 gal. to cubic ft	2.45
Sept. 30 to Oct. 31, 1898	1,810	16,290	@ 30c. per 1,000 gal	" " "	4.90
Dr. Ford Bros.—					
Aug. 31 to Sept. 30, 1898	2,110	18,990	@ 30c. per 1,000 gal	9 gal. to cubic ft	5.70
Oct. 31 to Nov. 39, 1898	1,270	11,430	" " " " "	" " "	3.45
Gulf Bay Co.—					
Nov. 26 to Dec. 29, 1898	3,770	30,160	@ 30c. per 1,000 gal	8 gal. to cubic ft	9.05
Oct. 31 to Nov. 30, 1898	2,980	23,840	" " " " "	" " "	7.15
Sept. 30 to Oct. 31, 1898	2,780	22,840	" " " " "	" " "	6.65

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.			
Aug. 31 to Sept. 30, 1898.....	3,970	29,775	" " " " "	.....7½ gal. to cubic ft...	8.95
July 30 to Aug. 31, 1898.....	4,150	31,125	" " " " "	..... " " " ...	9.35
June 28 to July 26, 1898.....	4,360	32,700	" " " " "	..... " " " ...	9.80
May 27 to June 28, 1898.....	4,180	31,350	" " " " "	..... " " " ...	9.40
April 1 to May 27, 1898.....	3,650	27,375	" " " " "	..... " " " ...	8.20
March 31 to April 30, 1898.....	3,340	25,050	" " " " "	..... " " " ...	7.50
Jan. 31 to Feb. 28, 1898.....	3,790	28,425	" " " " "	..... " " " ...	8.55
Dec. 31, 1897, to Jan. 31, 1898.....	3,510	26,325	" " " " "	..... " " " ...	7.90
Nov. 30 to Dec. 31, 1897.....	3,003	22,500	" " " " "	..... " " " ...	6.75
Oct. 31 to Nov. 30, 1897.....	1,850	13,875	" " " " "	..... " " " ...	4.15
Oct. 7 to 28, 1897.....	1,097	8,227	" " " " "	..... " " " ...	2.45
Gaupn. E.—					
Dec. 30, 1892, to Jan. 30, 1893.....	12,600	94,400	@ 25c. per 1,000 gal	.....7½ gal. to cubic ft...	23.60
Jan. 30 to Feb. 27, 1893.....	12,690	95,175	" " " " "	.....	23.79
Feb. 27 to March 30, 1893.....	.....	103,800	" " " " "	.....	25.95
April 27 to May 29, 1893.....	.....	153,000	" " " " "	.....	38.25
May 29 to June 30, 1893.....	.....	133,700	" " " " "	.....	33.45
June 30 to July 31, 1893.....	.....	136,500	" " " " "	.....	34.10
July 31 to Aug. 31, 1893.....	.....	122,250	@ 20c. per 1,000 gal	.....	24.45
Aug. 31 to Sept. 27, 1893.....	.....	85,725	" " " " "	.....	17.15
Oct. 31 to Sept. 27, 1893.....	11,210	84,075	" " " " "	.....7½ gal. to cubic ft...	16.80

Oct. 31 to Nov. 30, 1893.....	7,740	58,050	"	"	"	"	"	.....	"	"	"	...	11.60
Nov. 30 to Dec. 31, 1893.....	10,700	80,250	"	"	"	"	"	.....	"	"	"	...	16.05
Dec. 30, 1893, to Jan. 31, 1894.....	13,740	103,050	"	"	"	"	"	.....	"	"	"	...	20.60
Jan. 31 to Feb. 28, 1894	11,180	83,850	"	"	"	"	"	.....	"	"	"	...	16.75
May 31 to June 30, 1894	19,810	148,575	"	"	"	"	"	.....	"	"	"	...	29.70
June 30 to July 31, 1894	22,350	167,625	"	"	"	"	"	.....	"	"	"	...	33.50
March 30 to April 29, 1895	10,790	80,920	"	"	"	"	"	.....	"	"	"	...	16.20
July 31 to Aug. 30, 1894	16,380	122,850	"	"	"	"	"	.....	"	"	"	...	24.55
Sept. 29 to Oct. 30, 1894	14,930	111,975	"	"	"	"	"	.....	"	"	"	...	22.40
April 30 to May 31, 1895	9,440	70,800	"	"	"	"	"	.....	"	"	"	...	14.15
May 31 to June 29, 1895	10,460	78,450	"	"	"	"	"	.....	"	"	"	...	15.70
Gaupp, E.—													
June 29 to July 31, 1895	10,730	80,475	@ 20c. per 1,000 gal.....						7½ gal. to cubic ft...				16.10
July 29 to Aug. 30, 1895	9,800	73,500	"	"	"	"	"	.....	"	"	"	...	14.70
Aug. 30 to Sept. 28, 1895	8,520	63,900	"	"	"	"	"	.....	"	"	"	...	12.80
Sept. 30 to Oct. 31, 1895	8,760	65,700	"	"	"	"	"	.....	"	"	"	...	13.15
Oct. 31 to Nov. 30, 1895	6,540	49,050	"	"	"	"	"	.....	"	"	"	...	9.80
Dec. 31, 1895, to Jan. 30, 1896.....	5,680	42,600	"	"	"	"	"	.....	"	"	"	...	8.50
Nov. 30 to Dec. 30, 1895	10,880	81,600	"	"	"	"	"	.....	"	"	"	...	16.30
Jan. 31 to Feb. 29, 1896	6,400	48,000	"	"	"	"	"	.....	"	"	"	...	9.60
May 31 to June 30, 1896	4,210	31,575	"	"	"	"	"	.....	"	"	"	...	6.30
April 30 to May 31, 1896	5,930	44,475	"	"	"	"	"	.....	"	"	"	...	8.90
Feb. 29 to March 31, 1896	11,240	84,300	"	"	"	"	"	.....	"	"	"	...	16.85
Dec. 31, 1896, to Jan. 30, 1897.....	8,870	66,525	"	"	"	"	"	.....	"	"	"	...	13.30

19

TABULATION OF THE RECEIPTS OF THE N. O WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.			
Oct. 31 to Nov. 30, 1896	8,420	63,150	" " " " "	" " " ...	12.20
Nov. 30 to Dec. 31, 1896	8,310	62,325	" " " " "	" " " ...	12.45
Aug. 29 to Oct. 30, 1896	18,300	137,250	" " " " "	" " " ...	27.45
July 30 to Aug. 31, 1896	7,600	57,000	" " " " "	" " " ...	11.40
June 30 to July 31, 1896	8,350	62,625	" " " " "	" " " ...	12.50
April 30 to May 31, 1897	.....	.....	" " " " "	Estimated	13.65
Nov. 29 to Dec. 31, 1898	6,510	52,080	" " " " "	8 gal. to cubic ft....	10.40
Aug. 31 to Sept 30, 1898	7,120	56,960	" " " " "	" " "	11.40
Dec. 31, 1897, to Jan. 31, 1898.....	9,720	72,900	" " " " "	7½ gal. to cubic ft...	14.60
May 30 to June 30, 1898	15,970	127,760	" " " " "	8 gal. to cubic ft....	25.55
Oct. 31 to Nov. 30, 1897	6,560	49,200	" " " " "	7½ gal. to cubic ft...	9.85
July 30 to Aug. 31, 1897	11,110	83,325	" " " " "	" " " ...	16.65
May 31 to June 30, 1897	12,860	96,450	" " " " "	" " " ...	19.30
Sept. 30 to Oct. 31, 1897	6,160	46,200	" " " " "	" " " ...	9.25
Jan. 30 to Feb. 27, 1897	7,950	59,625	" " " " "	" " " ...	11.90
Dec. 31, 1898, to Jan. 31, 1899.....	8,000	64,000	" " " " "	8 gal. to cubic ft....	12.80
March 30 to April 27, 1893	.....	109,800	@ 25c. per 1,000 gal.....		27.45
Dec. 16 to 30, 1892	.....	32,160	" " " " "		8.05
Hellmers, T.—					
Dec. 31, 1898, to Jan. 31, 1899.....	2,510	22,590	@ 30c. per 1,000 gal.....	9 gal. to cubic ft....	6.80
Nov. 26 to Dec. 28, 1898	2,400	21,600	" " " " "	" " "	6.50

Oct. 31 to Nov. 30, 1899	2,200	19,800	" " " " " ..... " " "	5.95
Sept. 30 to Oct. 31, 1898	1,740	13,920	@ 35c. per 1,000 gal.....8 gal. to cubic ft....	4.85
Aug. 31 to Sept. 30, 1898	890	7,120	" " " " " ..... " " "	2.50
July 30 to Aug. 31, 1898	1,040	8,320	" " " " " ..... " " "	2.90
June 29 to July 28, 1898	1,040	8,320	" " " " " ..... " " "	2.90
May 27 to June 29, 1898	1,270	10,161	@ 40c. per 1,000 gal..... " " "	4.05
April 27 to May 31, 1898	1,530	11,475	" " " " " .....7½ gal. to cubic ft...	4.60
Helmers, T.—				
March 31 to April 30, 1898	2,120	15,900	@ 40c. per 1,000 gal.....7½ gal. to cubic ft...	6.35
Feb. 28 to March 31, 1898	2,340	17,550	" " " " " ..... " " " ...	7.00
Jan. 31 to Feb. 28, 1898	1,260	9,450	" " " " " ..... " " " ...	3.80
Dec. 31, 1897, to Jan. 31, 1898.....	1,210	9,075	" " " " " ..... " " " ...	3.65
Oct. 29 to 28, 1897	2,740	20,550	" " " " " ..... " " " ...	8.20
Oct. 31 to Nov. 30, 1897	720	5,400	" " " " " ..... " " " ...	2.15
Nov. 30 to Dec. 31, 1897	810	6,075	" " " " " ..... " " " ...	2.45
Oct. 31, 1895 to Sept. 30, 1896.....	.....	.....	Family, barroom, lodging house, 1 sink.....	40.00
Oct. 1, 1894, to Sept. 30, 1895.....	.....	.....	Bar and lodging house.....	40.00
Oct. 1, 1893, to Sept. 30, 1894.....	.....	.....	" " "	40.00
Oct. 1, 1892, to Sept. 30, 1893.....	.....	.....	" " "	40.00
Hufft, F. & Co.—				
Dec. 30, 1898, to Jan. 31, 1899.....	3,460	31,140	@ 30c. per 1,000 gal.....9 gal. to cubic ft....	9.35
Nov. 29 to Dec. 30, 1898	5,150	46,350	" " " " " ..... " " "	13.90
Oct. 31 to Nov. 30, 1898	5,810	52,290	" " " " " ..... " " "	15.00
Sept. 30 to Oct. 31, 1898	7,500	67,500	@ 25c. per 1,000 gal..... " " "	16.85

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.		
Aug. 31 to Sept. 30, 1898	7,080	56,640	" " " " "	8 gal. to cubic ft.... 14.15
July 30 to Aug. 31, 1898	6,640	53,120	" " " " "	" " " 13.30
May 28 to June 30, 1898	8,880	71,040	" " " " "	" " " 17.75
April 29 to May 28, 1898	7,820	62,560	" " " " "	" " " 15.65
March 31 to April 30, 1898.....	7,520	60,460	" " " " "	" " " 15.05
Feb. 28 to March 31, 1898.....	3,380	31,140	@ 30c. per 1,000 gal.....	9-21 gal. to cubic ft... 9.35
Jan. 31 to Feb. 28, 1898	1,510	11,325	@ 40c. per 1,000 gal.....	7½ gal. to cubic ft... 4.55
Dec. 31, 1897, to Jan. 31, 1898.....	2,220	16,650	@ 30c. per 1,000 gal.....	" " " ... 5.00
Nov. 30 to Dec. 31, 1897	2,550	19,125	" " " " "	" " " ... 5.75
Oct. 31 to Nov. 30, 1897	3,510	26,325	" " " " "	" " " ... 7.90
Sept. 30 to Oct. 31, 1897	3,170	23,775	@ 40c. per 1,000 gal.....	" " " ... 9.50
Aug. 31 to Sept. 30, 1897	4,350	32,625	@ 30c. per 1,000 gal.....	" " " ... 9.80
July 30 to Aug. 31, 1897	2,710	20,325	" " " " "	" " " ... 6.10
June 30 to July 31, 1897	3,080	23,100	@ 25c. per 1,000 gal.....	" " " ... 5.75
March 29 to April 30, 1897	1,440	22,320	" " " " "	15½ gal. to cubic ft.. 5.60
May 31 to June 30, 1897	3,850	28,875	" " " " "	7½ gal. to cubic ft... 7.20
Feb. 28 to March 31, 1897	1,700	26,350	" " " " "	15½ gal. to cubic ft.. 6.60
Jan. 30 to Feb. 27, 1897	1,940	30,600	" " " " "	15 75-97 gal. to cu. ft. 7.65
Dec. 31, 1896, to Jan. 30, 1897.....	2,040	26,520	" " " " "	13 gal. to cubic ft.... 6.65
Nov. 30 to Dec. 31, 1896	2,890	37,570	" " " " "	" " " 9.40

Haas, S.—					
June 1, 1891, to June, 1892	.....	.....	Stables, 18 head of stock and 4 vehicles	.....	50.00
June 1 to July 31, 1893	.....	40,050	@ 40c. per 1,000 gal	.....	1.60
July 31 to Sept. 27, 1893	.....	2,962	" " " " "	.....	1.20
Oct. 31 to Nov. 30, 1893	725	5,420	" " " " "	7½ gal. to cubic ft	2.20
Nov. 31, 1893, to Jan. 31, 1894	790	5,925	" " " " "	" " "	2.40
March 31, 1894	730	5,475	" " " " "	" " "	2.20
June 30 to July 31, 1899	1,090	8,175	@ 35c. per 1,000 gal	" " "	2.85
May 31 to June 30, 1899	930	6,975	" " " " "	" " "	2.45
March 31 to May 31, 1899	1,370	10,275	" " " " "	" " "	3.60
Feb. 28 to March 31, 1899	950	7,125	" " " " "	" " "	2.50
Jan. 31 to Feb. 28, 1899	890	6,675	" " " " "	" " "	2.35
Dec. 31, 1898, to Jan. 31, 1899	1,200	9,000	" " " " "	" " "	3.15
Nov. 29 to Dec. 30, 1898	910	6,825	" " " " "	" " "	2.40
Oct. 31 to Nov. 30, 1898	1,190	8,925	" " " " "	" " "	3.15
Aug. 31 to Sept. 30, 1898	.....	6,400	" " " " "	Estimated	2.25
July 30 to Aug. 31, 1898	640	6,400	" " " " "	10 gal. to cubic ft	2.25
June 30 to July 29, 1898	70	6,710	" " " " "	96 gals. to cubic ft	2.40
May 30 to June 30, 1898	790	7,900	" " " " "	10 gal. to cubic ft	2.75
April 29 to May 30, 1898	630	6,300	" " " " "	" " "	2.20
March 31 to April 30, 1898	580	5,800	@ 40c. per 1,000 gal	" " "	2.30
Feb. 28 to March 31, 1898	730	7,300	" " " " "	" " "	2.90
Jan. 31 to Feb. 28, 1898	550	5,500	" " " " "	" " "	2.20
Dec. 31, 1897, to Jan. 31, 1898	1,000	10,000	" " " " "	" " "	4.00
Nov. 30 to Dec. 31, 1897	770	7,700	" " " " "	" " "	3.10

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.									
Oct. 31 to Nov. 30, 1897	500	5,000	"	"	"	"	"	.....	"	"	" ...	2.00
Sept. 30 to Oct. 31, 1897	410	4,100	"	"	"	"	"	.....	"	"	" ...	1.65
Aug. 31 to Sept. 30, 1897	470	4,700	"	"	"	"	"	.....	"	"	" ...	1.90
July 30 to Aug. 31, 1897	540	5,400	"	"	"	"	"	.....	"	"	" ...	2.15
June 30 to July 31, 1897	620	6,200	"	"	"	"	"	.....	"	"	" ...	2.50
May 31 to June 30, 1897	530	5,300	"	"	"	"	"	.....	"	"	" ...	2.10
April 30 to May 31, 1897	480	4,800	"	"	"	"	"	.....	"	"	" ...	1.90
March 29 to April 30, 1897	400	4,000	"	"	"	"	"	.....	"	"	" ...	1.60
Feb. 27 to March 31, 1897	390	3,900	"	"	"	"	"	.....	"	"	" ...	1.55
Jan. 30 to Feb. 27, 1897	380	3,800	"	"	"	"	"	.....	"	"	" ...	1.50
Nov. 30 to Jan. 30, 1897	860	8,600	"	"	"	"	"	.....	"	"	" ...	3.40
Oct. 31 to Nov. 30, 1896	500	5,000	"	"	"	"	"	.....	"	"	" ...	2.00
Sept. 30 to Oct. 31, 1896	640	6,400	"	"	"	"	"	.....	"	"	" ...	2.55
Aug. 31 to Sept. 30, 1896	460	4,600	"	"	"	"	"	.....	"	"	" ...	1.85
July 30 to Aug. 31, 1896	570	5,700	"	"	"	"	"	.....	"	"	" ...	2.30
June 30 to July 31, 1896	760	7,600	"	"	"	"	"	.....	"	"	" ...	3.05
Haas, S.—											
March 31 to June 30, 1897	770	7,700	@	40c.	per	1,000	gal	.....	10 gal.	per	cubic ft ...	3.10
Feb. 29 to March 31, 1897	730	5,475	"	"	"	"	"	.....	7½ gal	per	cubic ft ...	2.20
Sept. 30, 1895, to Jan. 31, 1896.....	1,040	7,800	"	"	"	"	"	.....	"	"	" ...	3.10
June 28 to Sept. 28, 1895	760	5,700	"	"	"	"	"	.....	"	"	" ...	2.30

March 29 to June 29, 1895	630	4,725	"	"	"	"	"	.....	"	"	" ...	1.90
Jan.— to March 30, 1895	650	4,875	"	"	"	"	"	.....	"	"	" ...	1.95
Dec. 29, 1894, to Jan. 31, 1895	990	7,425	"	"	"	"	"	.....	"	"	" ...	2.95
Oct. 30 to Nov. 29, 1894	690	5,170	"	"	"	"	"	.....	"	"	" ...	2.05
Aug. 31 to Sept. 29, 1894	510	3,825	"	"	"	"	"	.....	"	"	" ...	1.55
July 31 to Aug. 30, 1894	210	4,800	"	"	"	"	"	.....	2-3 gal to cubic ft...			1.90
May 29 to July, 1894	530	8,625	"	"	"	"	"	.....	16 29-106 gal to cu. ft.			3.45
March 31 to May 31, 1894	980	7,350	"	"	"	"	"	.....	7½ gal to cubic ft...			2.95
Israel, Mayer & Co.—	Linear Feet.											
Nov. 28 to Dec. 29, 1898	72,500	217,500	@	12c.	per	1,000	gal	.....	3 gal. to linear ft....			26.10
Oct. 31 to Nov. 30, 1898	82,000	246,000	"	"	"	"	"	.....	"	"	"	29.50
Sept. 30 to Oct. 31, 1898	67,600	202,800	"	"	"	"	"	.....	"	"	"	24.35
Aug. 31 to Sept. 30, 1898	43,400	130,200	"	"	"	"	"	.....	"	"	"	15.60
July 31 to Aug. 31, 1898	45,200	135,600	"	"	"	"	"	.....	"	"	"	17.25
June 29 to July 27, 1898	48,560	145,680	"	"	"	"	"	.....	"	"	"	17.50
May 28 to June 29, 1898	82,360	247,080	"	"	"	"	"	.....	"	"	"	29.65
April 29 to May 28, 1898	96,380	289,140	"	"	"	"	"	.....	"	"	"	34.70
March 31 to April 30, 1898	73,000	219,000	"	"	"	"	"	.....	"	"	"	26.30
Feb. 28 to March 31, 1898	72,400	217,200	"	"	"	"	"	.....	"	"	"	26.05
Johnson Son, F. & Co.—	Cubic Feet.											
Nov. 26 to Dec. 29, 1898	4,160	39,530	@	25c.	per	1,000	gal	.....	9½ gal. to cubic ft...			9.90
Nov. 26 to Dec. 28, 1898	8,670	82,365	"	"	"	"	"	.....	"	"	" ...	20.60
Oct. 31 to Nov. 30, 1898	3,980	37,810	"	"	"	"	"	.....	"	"	" ...	9.45

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.			
Oct. 31 to Nov. 30, 1898	3,160	30,000	" " " " "	" " " ...	7.50
Sept. 30 to Oct. 31, 1898	3,260	30,970	" " " " "	" " " ...	7.75
Sept. 30 to Oct. 31, 1898	3,390	32,200	" " " " "	" " " ...	8.05
Aug. 31 to Sept. 30, 1898	3,910	35,190	" " " " "	9 gal. to cubic ft....	8.80
Aug. 31 toSept. 30, 1898	3,800	34,200	" " " " "	" " "	8.55
June 28 to July 26, 1898	3,390	30,510	" " " " "	" " "	7.60
July 30 to Aug. 31, 1898	3,990	35,910	" " " " "	" " "	8.95
July 30 to Aug. 31, 1898	4,520	40,680	" " " " "	" " "	10.15
June 28 to July 26, 1898	3,480	51,320	" " " " "	" " "	7.85
May 27 to June 28, 1898	3.990	35,910	" " " " "	" " "	8.95
Johnson Son, F. & Co.—					
May 25 to June 28, 1898	5,020	45,180	@ 25c. per 1,000 gal.....	9 gal to cubic ft....	11.30
April 27 to May 25, 1898	3,410	30,690	" " " " "	" " "	7.65
April 28 to May 27, 1898	3,400	30,600	" " " " "	" " "	7.65
March 31 to April 30, 1898	4,000	36,000	" " " " "	" " "	9.00
March 31 to April 30, 1898	3,720	33,480	" " " " "	" " "	8.35
Feb. 28 to March 31, 1898	5,160	46,440	" " " " "	" " "	11.60
Feb. 28 to March 31, 1898	5,070	38,025	" " " " "	7½ gal. to cubic ft...	9.50
Jan. 31 to Feb. 28, 1898	9,190	68,925	" " " " "	" " " ...	17.25
Jan. 31 to Feb. 28, 1898	5,890	53,000	" " " " "	9 gal. to cubic ft....	13.25
Nov. 30 to Dec. 31, 1897	4,320	38,880	" " " " "	" " "	9.70
Nov. 30 to Dec. 31, 1897	5,510	41,325	" " " " "	7½ gal. to cubic ft...	10.35

Lorsch, W.—				
May 31, 1899	.....	.....	..... (bal. $25 guarantee)	6.95
Oct. 26 to Dec. 28, 1898	1,260	10,080	@ 35c. per 1,000 gal. ..... 8 gal. to cubic ft.	3.55
Dec. 31, 1898, to Feb. 12, 1899	1,536	12,288	" " " " " ..... " " " "	4.30
May 30 to June 30, 1899	490	3,930	" " " " " ..... " " " "	1.35
July 30 to Aug. 31, 1898	700	5,250	" " " " " ..... 7½ gal. to cubic ft.	1.85
May 20 to June 28, 1898	1,180	8,850	" " " " " ..... " " " "	3.10
June 28 to July 26, 1898	790	5,925	" " " " " ..... " " " "	2.05
May 18, 1897, to May 18, 1898	.....	.....	Family, bakery, 2 hydrants, sink, 3 heads, 3 wagons	38.00
Medical Building—				
Feb. 29 to March 31, 1896	5,980	44,850	@ 25c. per 1,000 gal. ..... 7½ gal. to cubic ft.	11.20
Jan. 31 to Feb. 29, 1896	5,290	39,675	" " " " " ..... " " " "	9.90
Nov. 30 to Dec. 30, 1895	4,000	30,000	" " " " " ..... " " " "	7.50
Oct. 31 to Nov. 30, 1895	4,460	33,450	" " " " " ..... " " " "	8.35
Dec. 31, 1895, to Jan. 30, 1896	5,480	41,100	" " " " " ..... " " " "	10.25
Dec. 29, 1894, to Jan. 31, 1895	4,060	30,450	" " " " " ..... " " " "	7.60
Jan. 31 to Feb. 28, 1895	3,530	26,475	" " " " " ..... " " " "	6.60
Nov. 29 to Dec. 31, 1894	5,770	43,265	" " " " " ..... " " " "	10.80
Oct. 30 to Nov. 29, 1894	5,210	39,075	" " " " " ..... " " " "	9.75
April 30 to May 31, 1895	4,040	30,300	" " " " " ..... " " " "	7.55
March 30 to April 29, 1894	4,230	31,725	" " " " " ..... " " " "	7.95
Feb. 28 to March 30, 1895	4,410	33,075	" " " " " ..... " " " "	8.25
Sept. 30 to Oct. 31, 1897	10,730	80,475	" " " " " ..... " " " "	20.10
May 31 to July 31, 1897	8,660	84,435	" " " " " ..... 9 3-4 gal. to cubic ft.	21.10
April 30 to May 31, 1897	4,400	42,900	" " " " " ..... " " " "	10.70

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.		
Medical Building.—				
Feb. 27 to April 30, 1897	6,820	66,495	@ 25c. per 1,000 gal.	9 3-4 gal. to cubic ft.	16.60
Dec. 30 to Feb. 27, 1897	3,660	35,625	" " " " "	" " "	8.90
July 31 to Sept. 30, 1897	4,020	139,050	" " " " "	3 4-59 gal. to cubic ft.	34.75
Sept. 29 to Oct 30, 1894	5,100	38,250	" " " " "	7½ gal. to cubic ft.	9.55
May 31 to June 29, 1895	3,750	28,125	" " " " "	" " "	7.05
Sept. 30 to Oct. 31, 1895	6,290	47,175	" " " " "	" " "	11.80
March 31 to April 30, 1896	5,040	37,890	" " " " "	" " "	9.45
April 30 to May 31, 1896	7,960	59,700	" " " " "	" " "	14.90
June 30 to July 31, 1896	14,070	.....	.....	.....
June 30 to July 31, 1896.....30%	4,221	137,175	@ 25c. per 1,000 gal.	7½ gal. to cubic ft.	34.30
May 31 to June 30, 1896	12,930	126,067	" " " " "	9 3-4 gal. to cubic ft.	31.50
Oct. 31 to Nov. 30, 1896	4,200	40,950	" " " " "	" " "	10.25
Nov. 30 to Dec. 31, 1896	2,450	23,890	" " " " "	" " "	5.95
June 29 to July 31, 1895	6,870	51,525	" " " " "	.....	11.25
June 1 to June 30, 1899	.....	.....	Supply for month as per agreement	.....	11.25
May 1 to 31, 1899	.....	.....	Supply for month as per agreement	.....	11.25
March to April 29, 1899	.....	45,000	@ 25c. per 1,000 gal.	7½ gal. to cubic ft.	11.25
Dec. 31, 1898, to Jan. 31, 1899	8,860	45,000	" " " " "	5.08 gal. to cubic ft.	11.25
Jan. 31 to Feb. 28, 1899	.....	45,000	" " " " "	.....	11.25
Feb. 28 to March 31, 1899	.....	45,000	" " " " "	.....	11.25
Oct. 31 to Nov. 30, 1898	5,360	45,000	" " " " "	8.4 gal. to cubic ft.	11.25

July 12 to 27, 1898	3,020	45,000	" " " " "	14.9 gal. to cubic ft.	11.25
April 30 to Oct. 31, 1898	4,470	45,000	" " " " "	10.06 gal. to cubic ft.	11.25
March 31 to April 30, 1898	.....	45,000	" " " " "	.....	11.25
April 30 to May 31, 1898	.....	45,000	" " " " "	.....	11.25
Jan. 31 to Feb. 28, 1898	.....	45,000	" " " " "	.....	11.25
Nov. to Dec., 1898	.....	45,000	" " " " "	.....	11.25
Aug. 31 to Sept. 30, 1898	.....	45,000	" " " " "	.....	11.25
May 31 to June 30, 1898	.....	45,000	" " " " "	.....	11.25
Feb. 28 to March 31, 1898	.....	45,000	" " " " "	.....	11.25
July 30 to Aug. 31, 1895	8,930	66,975	" " " " "	7½ gal. to cubic ft.	16.75
Aug. 31 to Sept. 30, 1895	6,050	45,375	" " " " "	" " "	11.35
July 30 to Aug. 31, 1896	23,100	.....	.....	.....	.....
July 30 to Aug. 31, 1896.....30%	6,930	225,225	@ 25c. per 1,000 gal.	5.62 gal. to cubic ft.	56.30
Aug. 31 to Sept. 30, 1896	28,000	273,000	" " " " "	9 3-4 gal. to cubic ft.	68.25
Sept. 30 to Oct. 31, 1896	25,300	246,675	" " " " "	" " "	61.65
N. O. Soda Water Co.—					
Dec. 31, 1897, to Jan. 31, 1898	930	9,300	@ 30c. per 1,000 gal.	10 gal. to cubic ft.	2.80
Oct. 27 to Dec. 29, 1898	2,260	22,600	" " " " "	" " "	6.80
Sept. 30 to Oct. 31, 1898	1,800	18,000	" " " " "	" " "	5.40
Aug. 31 to Sept. 30, 1898	1,740	17,400	" " " " "	" " "	5.20
Jan. 31 to Aug. 31, 1898	13,680	136,800	" " " " "	" " "	41.05
Jan. 1, 1898, to Jan. 1, 1899	.....	.....	Mineral Water Factory, 2 hydrants, 5 horses, 4 wagons		50.00

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

Pizzini, P.—

	Cubic Feet.	Gallons.		
July 30 to Aug. 31, 1898	370	5,700	@ 35c. per 1,000 gal	15.4 gal. to cubic ft.	2.00
Feb. 28 to March 31, 1898	380	5,000	@ 40c. per 1,000 gal	13 gal. to cubic ft.	2.00
March 31 to April 30, 1898	240	5,000	" " " " "	20.8 gal. to cubic ft.	2.00
Dec. 31, 1897, to Jan. 31, 1898	870	7,830	" " " " "	9 gal. to cubic ft.	3.15
Nov. 30 to Dec. 31, 1897	710	6,390	" " " " "	" " "	2.55
Oct. 31 to Nov. 30, 1897	370	5,000	" " " " "	13.5 gal. to cubic ft.	2.00
April 28 to May 27, 1898	150	5,000	" " " " "	33 1-3 gal. to cubit ft.	2.00
May 27 to June 29, 1898	170	5,700	@ 35c. per 1,000 gal	33.5 gal. to cubic ft.	2.00
June 29 to July 27, 1898	230	5,700	" " " " "	24.8 gal. to cubic ft.	2.00
Aug. 31 to Sept. 30, 1898	370	5,700	" " " " "	15.4 gal. to cubic ft.	2.00
Sept. 30 to Oct. 31, 1898	560	5,700	" " " " "	11 gal. to cubic ft.	2.00
Oct. 31 to Nov. 30, 1898	480	5,700	" " " " "	11.8 gal. to cubic ft.	2.00
Nov. 26 to Dec. 30, 1898	540	5,700	" " " " "	10.5 gal. to cubic ft.	2.00
Dec. 31, 1898, to Jan. 31, 1899	690	6,210	" " " " "	9 gal. to cubic ft.	2.15

Rabito, A. P.—

Feb. 28 to April 30, 1894	1,360	10,200	@ 30c. per 1,000 gal	7½ gal. to cubic ft.	3.05
April 27 to June 30, 1894	890	6,675	" " " " "	" " "	2.00
June 16 to June 26, 1896	3,020	113,250	@ 15c. per 1,000 gal	37½ gal. to cubic ft.	16.95
Aug. 31 to Sept. 30, 1896	16,180	202,250	" " " " "	12½ gal. to cubic ft.	30.35
Aug. 29, 1894, to Aug. 29, 1895	.....	.....	Fish warehouse		15.00

Schwartz Machinery Co.—				
Feb. 28 to March 31, 1898	6,840	95,760	@ 25c. per 1,000 gal.....14 gal. to cubic ft...	23.95
Dec. 31, 1898 to Jan. 31, 1899.....	3,560	35,600	@ 30c. per 1,000 gal.....10 gal. to cubic ft....	10.68
Feb. 28 to March 31, 1899	1,460	14,600	" " " " " .....," " "	4.40
March 31 to April 29, 1899	2,520	25,200	" " " " " ..... " " "	7.55
Schoen, J. & Son—				
May 31 to June 30, 1898	5,430	40,725	@ 30c. per 1,000 gal.....7½ gal. to cubic ft...	12.20
Oct. 31 to Nov. 30, 1898	6,850	68,500	@ 25c. per 1,000 gal.....10 gal. to cubic ft...	17.10
Nov. 30 to Dec. 31, 1898	3,630	36,300	@ 30c. per 1,000 gal..... " " " ...	10.90
June 30 to July 30, 1898	5,910	44,325	" " " " " .....7½ gal. to cubic ft...	13.30
Sept. 30 to Oct. 31, 1898	13,530	135,300	@ 20c. per 1,000 gal.....10 gal. to cubic ft...	27.05
Aug. 31 to Sept. 30, 1898	6,170	61,700	@ 25c. per 1,000 gal..... " " " ...	15.40
Dec. 31, 1898, to Jan. 31, 1899.....	3,770	37,700	@ 30c. per 1,000 gal..... " " " ...	11.31
Aug. 12, 1897. to Nov. 12, 1897.....	.....	.....	Water supply for 3 months.....	21.25
Swiss Laundry—				
Sept. 30 to Oct. 31, 1897	9,440	130,420	@ 15c. per 1,000 gal.....13.8 gal. to cubic ft..	19.55
Nov. 30 to Dec. 31, 1897	7,700	134,420	" " " " " .....17.4 gal. to cubic ft.:	20.15
Oct. 31 to Nov. 30, 1897	5,520		" " " " " ..... 9 gal. to cubic ft...	
Oct. 31 to Nov. 30, 1897	7,880	128,480	" " " " " .....10 gal. to cubic ft...	19.25
May 31 to June 30, 1897	6,340		" " " " " ..... 9 gal. to cubic ft...	
May 31 to June 30, 1897	9,960	131,760	" " " " " .....7½ gal. to cubic ft...	19.75
Oct. 31 to Nov. 30, 1898	12,850	141,350	" " " " " .....11 gal. to cubic ft...	21.20
Sept. 30 to Oct. 31, 1898	15,900	169,000	" " " " " ..... " " " ...	25.35

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.			
Nov. 25 to Dec. 28, 1898	17,160	188,760	" " " " "	" " " ...	28.30
Aug. 31 to Sept. 30, 1898	15,880	158,800	" " " " "	10 gal. to cubic ft...	23.80
July 30 to Aug. 31, 1898	19,910	199,100	" " " " "	" " " ...	29.85
May 26 to June 27, 1898	7,900	173,000	" " " " "	21.9 gal. to cubic ft..	25.95
Dec. 31, 1897, to Jan. 31, 1898.....	15,580	201,400	" " " " "	12.8 gal. to cubic ft..	22.50
April 27 to May 26, 1898	17,000	170,000	" " " " "	10 gal. to cubic ft...	25.50
May 31 to April 86, 1898	16,960	169,600	" " " " "	" " " ...	25.45
June 27 to July 26, 1898	16,210	162,100	" " " " "	" " " ...	24.30
Feb. 28 to March 31, 1898	17,840	178,400	" " " " "	" " " ...	26.75
Jan. 31 to Feb. 28, 1898	19,120	184,000	" " " " "	9.6 gal. to cubic ft...	27.60
Seiger, Geo.—					
Nov. 30 to Dec. 31, 1897	1,550	11,625	@ 40c. per 1,000 gal.....	7½ gal. to cubic ft...	4.65
Oct. 31 to Nov. 30, 1897	1,950	14,625	@ 30 c. per 1,000 gal.....	" " " ...	4.40
Sept. 30 to Oct. 31, 1897	1,400	10,500	@ 40c. per 1,000 gal.....	" " " ...	4.20
Aug. 31 to Sept. 30, 1897	1,870	14,025	@ 30 c. per 1,000 gal.....	" " " ...	4.20
July 30 to Aug. 31, 1897	1,370	10,275	" " " " "	" " " ...	3.10
June 30 to July 31, 1897	1,860	13,950	" " " " "	" " " ...	4.20
April 30 to June 30, 1897	1,060	40,950	" " " " "	" " " ...	12.25
Feb. 27 to April 30, 1897	670	6,700	" " " " "	10 gal. to cubic ft...	1.90
Jan. 30 to Feb. 27, 1897	490	4,900	" " " " "	" " " ...	1.45
Dec. 31, 1896, to Jan. 31, 1897.....	1,350	13,500	" " " " "	" " " ...	4.05

Seiger, Geo.—					
Dec. 31, 1897, to Jan. 31, 1898.....	.....	15,000	@ 30 c. per 1,000 gal.....	Estimated.....	4.50
Nov. 26, 1898, to Jan. 31, 1899.....	1,410	15,510	@ 35c. per 1,000 gal.....	11 gal. to cubic ft...	5.45
Sept. 28 to Nov. 30, 1898	960	10,560	" " " " "	" " " ...	3.70
Aug. 31 to Sept. 30, 1898	460	4,140	" " " " "	9 gal. to cubic ft....	1.45
July 30 to Aug. 31, 1898	910	8,190	" " " " "	" " " ...	2.85
June 29 to July 28, 1898	1,090	1,0340	" " " " "	9.6 gal. to cubic ft..	3.60
May 27 to June 29, 1898	1,000	10,000	" " " " "	10 gal. to cubic ft...	3.50
April 27 to May 27, 1898	1,650	12,375	" " " " "	7½ gal. to cubic ft...	4.35
March 31 to April 30, 1898	2,640	19,800	@ 30c. per 1,000 gal.....	" " " ...	5.95
Feb. 28 to March 31, 1898	2,270	17,000	" " " " "	" " " ...	5.10
Jan. 31 to Feb. 28, 1898	2,200	16,550	" " " " "	11 gal. to cubic ft...	4.95
Troy Laundry—					
July 30 to Aug. 31, 1895	20,480	204,800	@ 15c. per 1,000 gal.....	10 gal. to cubic ft...	30.70
Jan. 31 to Feb. 28, 1898	73,000	547,500	" " " " "	7½ gal. to cubic ft...	82.10
June 29 to July 31, 1895	21,560	161,700	" " " " "	" " " ...	29.10
Aug. 31 to Sept. 30, 1895	24,560	245,600	" " " " "	10 gal. to cubic ft...	36.85
Sept. 30 to Oct. 31, 1895	28,060	280,600	" " " " "	" " " ...	42.10
April 30 to May 31, 1897	72,050	540,375	" " " " "	7½ gal. to cubic ft...	81.05
May 31 to June 30, 1897	54,310	433,000	" " " " "	7.9 gal. to cubic ft...	46.20
Sept. 19, 1897, to Sept. 19, 1898....	.....	.....	Stable, 11 heads stock, 11 vehicles, 1 hydrant.....		45.00
July 30 to Aug. 31, 1897	4,150	41,500	@ 15c. per 1,000 gal.....	10 gal. to cubic ft...	
July 30 to Aug. 31, 1897	58,670	440,025	" " " " "	7½ gal. to cubic ft...	72.20
Aug. 31 to Sept. 30, 1897	77,670	582,585	" " " " "	7½ gal. to cubic ft...	87.37

TABULATION OF THE RECEIPTS OF THE N. O. WATER WORKS COMPANY FOR WATER SUPPLY TO SUNDRY PARTIES.

	Cubic Feet.	Gallons.							
July 30 to Aug. 31, 1898	1,190	536,610	"	"	"	"	"	..... Est. 3 months.....	80.50
Aug. 31 to Sept. 30, 1898	36,730	391,760	"	"	"	"	"	.....10.6 gal. to cubic ft..	58.75
Sept. 30 to Oct. 31, 1898	45,930	505,230	"	"	"	"	"	.....11 gal. to cubic ft...	75.80
Oct. 31 to Nov. 30, 1898	50,320	553,520	"	"	"	"	"	..... " " " ...	84.00
April 30 to May 30, 1898	67,530	540,240	"	"	"	"	"	.....8 gal. to cubic ft....	81.05
May 30 to June 30, 1898	68,400	547,200	"	"	"	"	"	..... " " " ...	82.10
March 31 to April 29, 1898	61,770	494,160	"	"	"	"	"	..... " " " ...	57.85
Feb. 2 to March 31, 1898	95,000	760,000	"	"	"	"	"	..... " " " ...	114.00
Sept. 30 to Oct. 31, 1897	53,330	399,975	"	"	"	"	"	.....7½ gal. to cubic ft...	60.00
Oct. 31 to Nov. 30, 1897	73,170	548,775	"	"	"	"	"	..... " " " ...	82.30
June 30 to July 31, 1897	42,960	348,200	"	"	"	"	"	.....8.1 gal. to cubic ft...	52.25

1631 R

No. 13,701.

SUPREME COURT OF LOUISIANA.

STATE OF LOUISIANA,

vs.

NEW ORLEANS WATER WORKS CO.,

APPENDIX B.

TO

PLAINTIFF'S BRIEF.

TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATER WORKS COMPANY.

In Book Form Marked "B."

TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATERWORKS COMPANY.

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Horses	Wagons	Persons		
1	Joe Mercere	1	..	..	..	..	..	..	..	2	Eating place	$12 00
2	Jackson & Kilpatrick	1	..	..	..	..	..	..	..	3	Salt Warehouse and office	12 00
3	Hope Warehouse	..	1	..	..	..	..	..	..	6	Rice cleaning and warehouse	12 00
4	The De la Vergne R'y Co.	..	1	..	..	..	..	..	..	1	Warehouse for machinery	12 00
5	D. T. Cummings	..	1	..	..	..	..	..	..	3	Hardware store	12 00
6	Mrs. J. Leckert	1	..	..	..	..	..	..	..	6	Family	12 00
7	C. M. Hebrew	1	..	..	..	..	..	..	..	5	Family, small, bar and oyster shop	12 00
8	Jno. Blackadder	1	..	..	..	..	..	..	..	4	Family and garden	12 00
9	Mrs. Rosalie Cotton	1	..	..	..	..	..	..	..	4	Builders' material, warehouses, office	12 00
10	B. H. Kelley	1	..	..	..	..	..	..	..	6	Family	12 00
11	E. Feldner	1	..	..	..	..	..	..	..	5	Family and drug store	12 00
12	Jas. Kelly	1	..	..	..	..	..	..	..	4	Family, 4 horses and 3 carriages	20 00
13	J. Weill	1	..	..	..	..	..	..	..	5	Family; small hose connection to iron pipe to 2 faucets on side of house for garden.	14 00
14	N. O. Tent and Awning Co.	1	..	..	..	..	..	..	..	6	Awning store	12 00
15	J. A. Buchanan	..	..	1	..	..	..	..	..	5	Family (closet only)	12 00
16	J. H. Taylor	1	..	..	..	..	..	..	..	4	Family	12 00
17	H. Camoe	1	..	..	..	..	..	..	..	4	Family	11 00

18	Mrs. Gordon	2	..	..	..	..	..	..	..	5	Family	12 00
19	Mrs. J. Haas	1	..	..	..	..	..	..	..	6	Family	12 00
20	M. Baginsky	1	..	..	..	..	..	..	..	5	Family and garden	12 00
21	H. P. McLean	1	..	..	..	..	..	..	..	3	Family	12 00
22	J. W. Prenthiss	1	..	..	..	..	..	..	..	4	Family	12 00
23	A. or W. F. T. Moir	1	..	..	1	..	..	..	..	3	Store	12 00
24	L. Bonquois	1	..	..	..	..	..	..	..	4	Shoe store	12 00
25	D. Bernhardt	..	..	..	..	1	..	..	..	6	Family	12 00
26	J. Rainey & Co.	1	..	1	..	..	1	..	..	3	Office (pro rata)	12 00
27	Mrs. J. Murray	1	..	..	..	..	..	..	..	3	Family and tailor shop	12 00
28	W. K. Horn	..	..	..	..	1	..	..	..	4	Family	12 00
29	Martin Glazer	..	..	..	..	1	..	..	..	4	Family	12 00
30	C. M. Morales	1	..	..	..	..	..	..	..	5	Family	12 00
31	J. B. Ciers	1	..	..	..	..	..	..	..	5	Family	12 00
32	E. Munchow	..	..	..	..	1	..	..	..	5	Family	12 00
33	Mrs. Rand	1	..	..	..	..	..	..	..	5	Family	12 00
34	F. Artigue	1	..	..	..	..	..	..	..	5	Family	12 00
35	H. C. Boazman	1	..	..	..	..	..	..	..	4	Family	12 00
36	John W. Watson	1	..	..	..	1	..	..	..	4	Family	12 00
37	E. Hanson	1	..	..	..	..	..	..	..	3	Furnished rooms	12 00
38	J. T. Shreiber	1	..	..	..	..	..	4	3	..	Stable	12 00
39	Mrs. J. Pujol	1	..	..	..	..	..	..	..	4	Family and tailor shop	12 00
40	Lawn Tennis Club	1	..	..	..	..	..	..	..	1	Club	12 00

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Horses	Wagons	Persons		
41	J. Lippman	1	..	..	..	..	..	..	..	..	..		Family	12 00
42	Mrs. E. Dreyfus	1	..	..	..	..	..	..	..	..	..	4	Family and store	12 00
43	J. Levy	1	..	..	..	..	..	..	..	..	..	4	Family and jewelry store	12 00
44	John Sarich	1	..	..	..	..	..	..	..	..	..	2	Oyster saloon	12 00
45	Mrs. Carroll	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
46	C. Matranga	1	..	..	..	1	..	1	..	..	..	5	Family	18 00
47	Mrs. C. Henrich	1	..	..	..	..	..	..	..	..	..	7	Family, grocery, lodging	12 00
48	Schneider, G.	1	..	..	..	..	..	..	..	..	..	5	Family	12 00
49	R. Aitken	1	..	..	..	..	..	..	..	..	..	5	Family	12 00
50	A. Fattivina	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
51	J. B. Laplace	1	..	..	..	..	..	..	..	..	..	5	Family, tailor shop, cigar store	12 00
52	St. Joseph School	..	..	..	..	1	..	..	..	..	..	5	Priests' residence	12 00
53	Union Coal Co.	1	..	..	..	..	..	..	..	5	5	2	Coal yard and stable	12 00
54	Mrs. Dunn	1	..	..	..	..	..	..	..	..	..	5	Washwoman	12 00
55	Pickwick Club	..	..	..	..	..	..	..	1				Street sprinkling, 40 feet front	12 00
56	Mrs. Wood	1	..	..	..	..	..	..	..	..	..	5	Furnished rooms	12 00
57	Mrs. Nagle	1	..	..	..	1	..	..	..	..	..	6	Family on upper floor, 2 front rooms lower floor as second-hand book and furniture	

58	H. McManus	1	..	..	..	..	..	..	..					store	12 00
59	E. J. Bermudez	1	..	..	..	..	..	..	..	..	..	4	Family		12 00
60	N. Y. & N. O. Contion Co. (lower floor)	1	..	..	..	..	..	..	..	..	..	5	Family		12 00
												5	Confectionery		12 00
61	M. Cook	1	..	2	..	..	..	..	..	..	..	7	Florist		12 00
62	J. Bonomo	1	..	..	..	..	..	..	..	..	..	4	Family		12 00
63	E. Bouda	1	..	..	..	..	..	..	..	..	..	4	Family		12 00
64	J. F. Kelly	1	..	..	..	..	..	..	..	..	..	4	Family		12 00
65	Mrs. Pritchard	..	..	..	..	1	..	..	..	..	..	4	Furnished rooms		12 00
66	D. Lopez's Sons	2	..	..	..	..	..	..	..	2	2	..	Stables		12 00
67	M. Walsh	1	..	..	..	1	..	..	..	..	..	5	Family, grocery and bar		12 00
68	N. O. Transfer Co.	..	1	..	..	..	..	..	..	..	..	6	Baggage office		12 00
69	Mrs. Kuntz	..	..	..	..	1	..	..	..	..	..	10	Family		12 00
70	Mrs. J. Tisdale	1	..	..	..	..	..	..	..	..	..	5	Furnished rooms		12 00
71	Wang Tung Lee	1	..	..	..	..	..	..	..	..	..	3	Chinese store		12 00
72	M. Setes	1	..	..	..	..	..	..	..	..	..	5	Family		12 00
73	J. M. Danfloul	1	..	..	..	..	..	..	..	..	..	3	Family		12 00
74	H. Tieman	1	..	..	..	..	..	..	..	..	..	5	Family		12 00
75	G. Townsend	1	1	..	..	..	..	..	..	..	..	6	Office		12 00
76	R. Poretto	1	..	..	..	..	..	..	..	..	..	3	Tailor and family		12 00
77	D. J. Dowers	1	..	..	..	..	..	..	..	..	..	4	Family		12 00
78	J. M. Swoop	1	..	..	..	..	..	..	..	..	..	3	Family and store room for foundry		12 00
79	Mrs. V. Meyer	1	..	..	..	..	..	..	..	..	..	5	Family		12 00
80	P. J. Sullivan	1	..	..	..	..	..	..	..	3	2	..	Wood yard		12 00
81	T. J. Jewett	1	..	..	..	..	..	..	..	..	..	7	Family and roomers		12 00
82	J. W. Kearney	3	..	..	..	..	..	..	..	..	..	2	Paint factory		12 00

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Horses	Wagons	Persons		
83	C. Goslinsky	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
84	T. S. McGovern	1	..	..	..	..	..	..	..	..	..	4	Family and garden	12 00
85	Mrs. Aletrino	..	..	..	..	1	..	..	..	..	..	3	Family	12 00
86	Miss A. B. Wilcox	..	..	..	..	1	..	..	..	..	..	4	Family	12 00
87	Dr. G. K. Pratt	1	..	..	..	..	..	..	..	3	2	..	Stable	12 00
88	J. W. Atkinson	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
89	J. W. Townsend	1	..	..	..	..	..	..	..	..	..	7	Family and garden	12 00
90	J. G. Eustis	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
91	Chas. Weill	1	..	..	..	..	..	..	..	..	..	5	Family	12 00
92	Mrs. J. Ourf	1	..	..	..	1	..	..	..	..	..	4	Family and bath	12 00
93	J. M. N. Allen	1	..	..	..	..	..	..	..	..	..	5	Family	12 00
94	M. C. Sintes	1	..	..	..	..	..	..	..	..	..	4	Family	12 00
95	Thos. Conway	1	..	..	..	..	..	..	..	..	..	5	Family	12 00
96	G. Aarons	1	..	..	..	..	..	..	..	..	..	8	Family	12 00
97	A. Heyd	1	..	..	..	..	..	..	..	..	..	6	Cooper shop	15 00
98	C. Will	1	..	..	..	..	..	..	..	..	..		Wheelright	15 00
99	P. H. Kelly	1	..	..	..	..	..	..	..	..	..	3	Boiler shop	15 00
100	H. McManus	1	..	..	..	..	..	..	..	..	..	8	Cooper shop	15 00
101	Adams, Beck Co. Ltd	1	..	..	..	..	..	..	..	..	..	4	Produce and poultry store	15 00

102	A. Mackie Co., Ltd.	1	..	..	..	..	..	..	..	..	..	3	Warehouse	15	00
103	C. A. Thiel	1	..	..	..	..	..	..	..	..	..	10	General warehouse	15	00
104	Am. Cooperage Co.	2	..	..	..	..	..	..	..	..	..	3	Cooperage shop	15	00
105	Dugue,DeBuys & Co	1	..	..	..	..	..	..	..	..	..	3	Store	15	00
106	N.O.Mill Supply Co	1	..	..	..	..	..	..	..	..	..	5	Oil dealers	15	00
107	Clerc Bros. & Co...	1	..	..	..	..	..	..	..	..	..	5	Commission store	15	00
108	McClure & Redpath	1	..	..	..	..	..	..	..	..	..	8	Spice store	15	00
109	J. A. Bonfiglio ...	1	..	..	..	1	..	..	..	..	..	7	Family and small notion store	15	00
110	Mrs. P. McGinn ..	1	..	..	..	..	..	..	..	..	..	5	Family, wheelright and blacksmith shop	15	00
111	Mrs. W. Young ...	1	..	..	..	..	..	..	..	..	..	8	Family and blacksmith shop	15	00
112	Geo. W. Palfrey ..	1	..	1	..	..	..	..	..	..	..	8	Family	15	00
113	Mrs. Galvin	2	..	..	..	..	..	..	..	..	..	4	Family; connection pipe added 6 weeks	15	00
114	Jas. Regan	1	..	..	..	..	..	..	..	1	..	5	Family, grocery and bar	15	00
115	Jas. Barry	1	..	..	..	1	..	..	..	..	..	4	Family	12	00
116	Mrs. Rennyson ...	2	1	..	..	1	..	2	..	..	..	5	Family	12	00
117	Mrs. E. Brandon ...	1	..	..	..	..	..	..	..	1	1	3	Family	15	00
118	P. Roman	1	..	..	..	..	..	..	..	..	..	3	Family, grocery, bar and connection pump to beer chest	15	00
119	N. Lux	1	..	..	..	..	..	..	..	..	..	2	Roomers, family and lodgers	15	00
120	T. Turnbull	1	..	..	..	1	..	..	..	..	..	7	Family	15	00

TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATERWORKS COMPANY.

		Hydrant	W. Basin	W. Closet	W. Tubs	Baths	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
121	Jules Andrieu	1	..	..	..	..	..	..	..	..	..	..	4	Family	15 00
122	Wolf & Marks	1	..	..	..	..	1	..	..	..	..	..	8	Store	15 00
123	G. W. Dunbar Sons	1	..	..	..	..	..	..	..	..	..	..	5	Liquor and can goods	15 00
124	W. H. Mathews & Bro.	1	..	..	..	..	..	..	..	..	..	..	4	Warehouse	15 00
125	C. Theard	1	..	..	..	1	..	..	..	..	..	..	5	Family	15 00
126	Mrs. C. A. Janvier	1	..	..	..	1	..	..	..	..	..	..	6	Family	15 00
127	F. Roder	2	..	..	..	..	..	..	..	..	1	1	5	Family and small fountain	15 00
128	J. B. Solari's Son	1	..	..	..	..	..	..	..	..	..	..	6	Grocers	15 00
129	Mrs. J. R. Shaw	1	..	..	..	..	..	..	..	..	..	..	6	Family	15 00
130	J. J. Maxwell	1	..	..	..	1	..	..	..	..	..	..	6	Family grocery and bar	15 00
131	J. Metzweiller	1	..	..	..	..	..	..	..	..	1	1	4	Family	15 00
132	H. Rice	1	..	..	..	..	..	..	..	..	2	1	7	Family and stable in rear	15 00
133	J. R. Juden	1	..	..	..	1	..	..	..	..	..	..	6	Family	15 00
134	W. T. Hardie	1	..	..	..	..	..	..	..	..	..	..	8	Family and garden 150x75	15 00
135	G. A. Williams	1	..	..	..	..	..	..	..	..	..	..	6	Family and garden 40x50	15 00
136	L. H. Terry	1	..	..	..	1	..	..	..	..	..	..	5	Family	15 00
137	Mrs. Jas. Teller	1	..	..	..	..	..	..	..	..	..	..	5	Family and garden 15x60	15 00
138	A. Arnaud	1	..	..	..	..	..	..	..	..	1	1	5	Family	15 00

139	D. Baldwin	..	..	..	..	..	..	..	..	..	..	..	..	..	Certificate lost	.....	
140	L. Goldstein	1	..	..	..	..	1	..	..	..	..	..	10		Clothing store	15	00
141	G. Gast & Co	1	..	..	..	..	..	..	..	..	..	..	6		Electro plating and wove wire works	15	00
142	Mrs. S. Heslin	..	..	..	..	1	..	1	..	1	..	..	6		Furnished rooms	15	00
143	Mrs. J. D. Hill	1	..	..	..	..	..	..	..	..	..	..	4		Family	15	00
144	J. D. Rouse	1	..	..	..	..	..	..	..	..	..	..	6		Family and garden 90x100	15	00
145	C. Michler	..	2	..	..	..	..	..	..	..	..	..	4		Barber shop, 3 chairs	15	00
146	R.Railey & Co.(first floor)	1	1	..	..	..	1	..	..	..	..	..	5		Insurance agents	15	00
147	A. Hill Annan	1	..	..	..	..	..	..	..	..	3	3	5		Office, lower floor, shoemaker, meeting rooms second and third floors	15	00
148	J. Schwartz	1	..	..	..	..	..	..	..	..	1	1	5		Family and garden 30x10	15	00
149	Mrs. W. Henry	1	..	..	..	..	..	..	..	..	..	..	8		Family and garden 60x60	15	00
150	G. Townsend	1	..	..	..	..	..	..	..	..	..	..	6		Family and garden 50x125	15	00
151	L. N. Maritch	2	..	..	..	..	..	..	..	..	..	..	4		Dyeing establishment & furnished rooms.	15	00
152	B. Strauss	1	..	..	..	1	..	..	..	..	..	..	3		Family	15	00
153	L. Gernsbacher	2	..	..	..	1	..	..	..	..	..	..	5		Family	15	00
154	Mrs. F. Reynolds	1	..	..	..	1	..	..	..	..	..	..	5		Family and connection with 2004 Baronne	15	00
155	Mrs. A. Hollander	1	..	..	..	1	..	..	..	..	..	..	3		Family	15	00
156	Morris Bldg., Land and Improvement Co	..	..	..	..	..	..	1	..	1	..	..	2		Cook shop for bar room	15	00
157	W. D. Denegre, Agt.	1	..	..	..	..	..	..	..	..	..	..	8		Families	15	00
158	C. Johnson	1	..	..	..	..	..	..	..	..	5	6	1		Stable	15	00
159	E. F. Herwig	1	..	..	..	..	..	..	..	..	..	..	3		Milk depot	15	00
160	D. Kessler	1	..	..	..	..	..	..	..	..	..	..	1		Family and eating house	15	00

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
161	Miss Talbot	..	..	..	..	1	..	..	..	1	..	..	5	Furnished rooms	15 00
162	Rennyson & Reilly	1	..	..	..	..	..	..	..	..	1	..	4	Furniture store	15 00
163	Geo. Weaver	2	..	..	..	..	..	..	..	..	..	..	7	Family grocery	15 00
164	M. Weiss	1	..	..	..	..	..	..	..	..	..	..	3	Family furnished rooms	15 00
165	Mrs. J. S. Hodgins	1	..	..	..	..	..	..	..	..	..	..	5	Family grocery and bar	15 00
166	C. Maniscalvo	1	..	..	..	..	..	..	..	..	..	..	6	Families	15 00
167	J. Gauche	1	..	..	..	..	..	..	..	..	4	3	..	Stables	15 00
168	H. Buddig	2	..	..	..	..	..	..	..	..	..	..	5	Family	15 00
169	B. Avery & Son	1	..	..	..	..	..	..	..	..	..	..	8	Store	15 00
170	J. B. Harrison	1	..	1	..	..	..	..	..	..	..	..	5	Family	15 00
171	Mrs. G. L'Hote	1	..	..	..	..	..	..	..	..	..	..	5	Family	15 00
172	Jon. A. Duffy	1	..	..	..	..	..	..	..	..	1	1	5	Family	15 00
173	J. Levy & Bros.	..	1	..	..	..	1	..	..	..	..	..	6	Stationers	15 00
174	Schroener & Descarlos	1	1	..	..	..	..	..	..	..	..	..	6	Barber shop, 4 chairs	15 00
175	Jung Sing Lung Co.	1	..	..	..	..	..	..	..	..	..	..	3	Chinese store	15 00
176	W. J. Kane	1	..	..	..	..	..	..	..	..	1	1	..	Horseshoeing	15 00
177	Puech & Freret	..	1	..	..	..	1	..	..	..	..	..	3	Office	15 00
178	J. Hawkins	1	..	..	..	..	..	..	..	..	..	..	4	Liquor store	15 00
179	F. Roth	1	..	..	..	..	..	..	..	..	..	..	6	Family and carpenter shop	15 00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
206	Mrs. Reinberg	1	..	..	..	1	..	1	..	1	..	..	6	Family	18 00
207	C. Roth	1	..	..	..	1	..	1	1	..	..	..	6	Family	18 00
208	J. Feitel	1	..	..	..	2	..	..	..	..	..	..	7	Family	18 00
209	F. Tranchina	1	..	..	..	..	..	..	..	..	..	..	6	Restaurant and bar	18 00
210	N. O. Insurance Co.	1	1	..	..	1	..	..	..	..	..	..	7	Insurance office	18 00
211	Hop Sing	1	..	..	..	..	..	..	..	..	..	..	2	Laundry	18 00
212	E. Hatry	..	..	..	..	..	..	1	..	..	..	..	5	Grocery and bar	18 00
213	A. K. Finlay	..	1	..	..	..	..	2	..	..	..	..	5	Drug store and soda stand	18 00
214	M. Solomon	..	..	..	..	..	..	..	..	..	..	..	..	Claim hydrant was closed for years	.....
215	H. A. Hill	1	..	1	..	..	..	..	..	..	..	..	5	Family	18 00
216	N. Bucker	1	..	1	..	..	..	..	..	..	..	..	6	Family	18 00
217	H. Charnock	1	..	1	..	..	..	..	..	..	..	..	5	Family	18 00
218	J. Levy	1	1	..	..	1	..	..	..	..	..	..	5	Family	18 00
219	Dr. S. R. Olliphant	..	..	..	..	..	..	..	..	..	..	..	..	Inspection certificate lost	.....
220	Mrs. R. Mayer	1	..	1	..	..	..	..	..	..	..	..	6	Family	18 00
221	G. Farrar	2	..	1	..	..	..	..	..	..	..	..	5	Family and garden 40x60	18 00
222	J. Reiss	1	..	..	..	1	..	..	..	..	..	..	6	Family and garden 30x150	18 00
223	Dr. A. Nolte	2	..	1	..	..	..	..	..	..	..	..	5	Family	18 00
224	G. P. Griswold	1	..	1	..	..	..	..	..	..	..	..	4	Family	18 00

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TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATERWORKS COMPANY.

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sink	Hose Box	Kitchen Range	Horses	Wagons	Persons			
251	Levy, Loeb & Co	1	1	..	..	..	1	..	..	..	..	..	..	Store	18	00
252	C. A. Orleans	1	..	..	..	..	..	..	..	..	..	..	4	Family, street sprinkling and small fountain	18	00
253	W. G. Walsh	1	..	..	..	..	..	..	..	..	..	..	5	Horseshoeing establishment	18	00
254	Vergnes, Gust & Senac	1	1	..	..	..	..	..	..	..	..	..	5	Liquor store	18	00
255	Dixie Oil Co.	1	..	1	..	..	..	..	..	..	..	..	4	Office	18	00
256	Standard Oil Co.	1	..	1	..	..	..	..	..	..	..	..	3	Office and oil supply store	18	00
257	Vermont Chemical Co.	1	..	..	..	..	..	1	..	..	..	..	10	Drug manufactory	18	00
258	L. A. Fleckinger (2 faucets 2d floor)	1	..	..	..	..	..	..	..	..	..	..	5	Family, poultry and vegetable dealer	18	00
259	C. Matranga	1	..	..	..	..	..	..	..	..	1	1	8	Family	18	00
260	J. Garlick	1	..	..	..	..	..	..	..	..	2	1	3	Small boiler	18	00
261	J. M. Swoop	1	..	..	..	1	1	..	1	..	..	..	6	Family	18	00
262	P. St. Amand (T-pipe, 2 faucets)	1	..	..	..	..	..	..	..	..	..	..	7	Families	18	00
263	Mrs. J. Blumenthal (T-pipe, 2 faucets)	1	..	..	..	..	..	..	..	..	..	..	8	Families	18	00
264	A. W. Hyatt	1	..	..	..	..	..	..	..	..	..	..	6	Family and street sprinkling	18	00
265	G. W. Leovy	1	..	1	..	..	..	..	..	..	..	..	5	Family	18	00
261	G. H. Thomason	1	..	..	..	1	..	1	..	..	..	..	8	Family	18	00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
232	N. O. Coffee Co. (connection to 2d and 3d floors)	1	..	..	..	..	..	..	..	..	..	..	15	Coffee roasting, electric motor	20 00
293	Chas. Dittmann	1	..	..	..	..	..	..	..	..	..	..	6	Coffee warehouse	20 00
294	A. J. McShane	1	..	..	..	..	..	..	..	..	..	..	4	Hide store and office	20 00
295	W. Geisinger (1 faucet to 2d floor)	1	..	..	..	..	..	..	..	..	..	..	5	Family and barroom	20 00
296	Bloch Bros.	1	..	..	..	..	..	1	..	..	..	..	5	Liquor store	20 00
297	Mrs. E. Smith	1	..	..	..	..	..	1	..	..	..	..	3	Family and barroom	20 00
298	J. Boebinger	1	..	..	..	..	..	..	..	..	2	..	8	Family and grocery bar	20 00
299	J. R. Todd	1	..	1	..	1	..	..	..	..	..	..	5	Family	20 00
300	T. Foley	1	..	..	..	..	..	..	..	..	..	..	14	Families	20 00
301	J. Rauch	1	..	..	..	..	..	..	..	..	..	..	5	Family and bakery	20 00
302	Kohn, Weill & Co.	1	..	..	..	..	1	..	..	..	..	..	10	Hat store	20 00
303	Simonds Mfg. Co.	1	1	..	..	..	1	..	..	..	..	..	5	Machine store	20 00
304	A. B. Maginnis	..	..	..	..	..	..	..	1	..	..	..	5	Office and ware rooms	20 00
305	Mrs. Zebruska	1	..	..	..	..	..	..	..	..	1	1	9	Families, fruit store	20 00
306	J. Leblanc	1	..	1	..	1	..	..	..	..	..	..	5	Family	20 00
307	M. J. Cull	1	..	..	..	..	..	..	..	..	2	2	6	Family and grocery	20 00

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TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATERWORKS COMPANY.

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
331	L. Luderbach (plumber's store)	..	..	..	..	..	..	..	..	..	..	..	..	4 W. closets, 7 filters and small fountain (as sample)	20 00
332	H. P. Moss	2	..	..	..	..	1	..	..	..	..	..	..	Offices	20 00
333	Denechaud Hotel	..	..	..	..	..	..	..	1	..	..	..	..	Street sprinkling	20 00
334	J. A. Bergman	1	..	..	..	2	..	1	1	..	..	..	6	Family	20 00
335	Mrs. H. A. Dykers	1	..	..	..	1	..	..	..	..	..	..	4	Family and private school	20 00
336	F. Reusch, Jr.	2	..	1	..	..	..	..	..	..	..	..	6	Family	20 00
337	Grunewald Hotel	..	..	..	..	..	..	..	1	..	..	..	..	Sprinkling street	20 00
338	C. Wirth	..	..	..	..	..	4	..	..	..	..	..	18	77 offices	20 00
339	M. Hirsch	1	..	..	..	1	..	1	..	1	..	..	5	Family	20 00
340	Dr. J. J. Callan	1	..	..	..	1	..	..	..	..	2	2	5	Family	20 00
341	Mrs. L. Jacobs	1	..	1	..	1	..	..	..	..	.	..	5	Family	20 00
342	Harmony Club	..	..	..	..	..	..	..	..	..				*Claim there is no such entry on books....*	
343	B. Fellman & Co.	1	..	..	..	..	..	..	..	..	4	4	..	Stables	20 00
344	Mrs. Mae Blanceque (connection to 2d & 3d floors)	1	..	..	..	..	..	..	..	..	1	1	5	Family, grocery	20 00
345	B. Bertuci	1	..	..	..	..	..	1	..	..	..	..	6	Family and oyster saloon	20 00
346	Lehman & Son	1	1	..	..	1	1	..	..	..	..	..	25	Dry goods store	20 00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Baths	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
372	Mrs. G. Zetzman	1	..	..	..	..	..	2	..	..	..	..	8	Family and vegetable dealer	20 00
373	A. Garcia	1	..	..	..	..	..	..	..	..	..	..	6	Family and laundry	20 00
374	P. Milhas	2	..	..	..	..	..	..	..	..	..	..	12	Families	20 00
375	M. Kenny (connection to filter)	1	..	..	..	1	..	..	..	..	..	..	7	Family, grocery and bar	20 00
376	S. Hernsheim & Co.	1	..	..	..	..	..	..	..	..	..	..	26	Tobacco warehouse	20 00
377	F. T. Bosworth	1	..	..	..	..	..	..	..	..	..	..	5	Family—Cooking done for coffee and eating stand	20 00
378	J. B. Lavigne	1	1	1	..	1	..	..	..	..	..	..	4	Family—Cooking done for coffee and eating stand	20 00
379	T. Dennery	1	..	..	..	..	..	..	..	..	5	4	1	Stable	20 00
380	J. W. Butts	1	..	..	..	1	..	2	..	1	..	..	6	Family	20 00
381	A. Klotz	1	..	1	..	1	..	2	..	1	..	..	6	Family	20 00
382	Mrs. A. Gillette	1	..	1	..	1	..	..	..	..	1	..	5	Family	20 00
383	J. M. McKee	1	..	..	..	1	..	1	1	..	1	..	7	Family, and garden 30x40 ft	20 00
384	F. L. Place	1	..	1	..	1	..	1	..	1	..	..	4	Family	20 00
385	W. P. Curtis	1	..	1	..	1	..	..	..	1	..	..	5	Family and garden	20 00
386	W. H. Dickson	1	..	1	..	1	..	..	..	..	..	..	5	Family	20 00
387	Mrs. Prochaska	1	..	2	..	..	..	..	..	..	..	..	5	Family	20 00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
411	N. South L. & Bldg. Ass'n (to filter)	1	3	2	..	..	..	1	1	..	..	..	10	Offices—Steam heaters in building	50 00
412	Pendennis Club	1	4	2	..	..	1	1	..	..	..	..	..	Clul room	50 00
413	Mrs. C. Woods	1	..	4	..	..	..	..	..	..	..	..	14	Family, boarding house	50 00
414	Mrs. M. J. Schwann	2	1	..	..	..	..	2	..	..	..	..	13	Families, barber shop, millinery store and C. laundry	50 00
415	M. D. Lagan	1	..	..	..	..	..	..	..	..	..	..	20	Ship chandler, engineers' supply and 18 horse power boiler	50 00
416	H. Busch	1	..	..	..	..	..	..	..	..	..	..	5	Steam box factory, steam pump and boiler	50 00
417	Thos. E. Lynch	1	..	..	..	..	..	..	..	..	11	8	2	Stables and family	50 00
418	J. B. Levert	2	2	2	..	1	..	3	..	1	..	..	8	Family, elevator	50 00
419	W. S. Parkerson (and 1 filter)	..	..	..	..	..	..	..	..	..	..	..	6	Last subscription	50 00
420	H. R. Gogreve	2	..	..	..	..	..	..	..	..	1	1	8	Family, garden (subscription)	50 00
421	W. E. Lawrence	7	..	1	..	..	..	..	..	..	4	3	8	Family garden (subscription)	50 00
422	N. O. C. & L. R. R.	1	2	3	..	..	1	1	..	..	..	..	30	Office	60 00
423	Keeley Institute	2	..	3	..	1	2	2	..	1	..	..	10	Institute	60 00
424	A. & C. Denis (2 faucets 4th floor)	1	1	..	..	..	5	2	..	..	..	..	15	Offices, barroom and barber shop	60 00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sink	Hose Box	Kitchen Range	Horses	Wagons	Persons		
444	C. Janvier	2	4	5	..	3	..	3	..	1	..	..	7	Family	60 00
445	G. L. Knoppler	1	..	..	..	..	..	..	..	..	20	7	6	Stables of Anheuser-Bush Brewing Co.	70 00
446	Finnegan, Fitzpatrick & Co	2	..	..	..	..	..	..	..	..	..	..	6	Hide store	70 00
447	W. W. Chapman	2	..	..	..	..	..	..	..	..	3	2	8	Hide store	70 00
448	Postal Telegraph Co.	2	3	6	..	..	..	1	..	..	..	..	22	Family, telegraph office	70 00
449	G. Lehman, Sr. (connection to filter)	3	5	4	..	3	..	3	1	1	..	..	8	Family and garden 60x100 ft	70 00
450	A. Hiller (conection to filter)	3	2	3	..	2	..	3	1	1	1	1	8	Family and street sprinkling	70 00
451	W. J. O'Donnell	1	3	4	3	2	..	3	1	1	..	..	6	Family, street sprinkling and garden	70 00
452	N. O. Sanitarium (connection to filter)	3	1	3	..	3	..	2	..	1	..	..	13	Sanitarium	70 00
453	State National Bank	3	7	..	..	..	4	2	..	..	..	..	24	Bank, offices (part vacant) up-stairs	70 00
454	Mrs. Sylvester	2	..	..	..	..	..	..	..	..	..	..	34	Families and roomers	70 00
455	C. Feahney	2	..	..	..	..	..	..	..	..	29	7	..	Warehouse and stable	70 00
456	Harris Bros.	4	..	..	..	..	..	..	..	..	.	..	5	Molasses reboiling, one 10 H.-P. boiler	75 00
457	Schmidt & Zeigler	2	3	..	..	..	1	..	..	..	..	..	40	Grocers	75 00
458	Planters' Commission Co.	2	..	..	..	..	..	..	..	..	..	..	6	One 12 H.-P. boiler, molasses remixing and reboiling	75 00

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		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
479	Whann & Jutte	1	..	..	..	..	..	..	..	..	32	18	3	Stable	95 00
480	Langhoff Bros.	1	..	..	..	..	..	..	..	..	..	..	10	Connection to boiler and to pipes for cleaning barrels, molasses remixing and reboiling	100 00
481	J. Ward Sons	1	1	..	..	..	..	..	..	..	..	..	15	Boiler works, one 15 H.-P. boiler.	100 00
482	R. R. Schmidt or Pelican Cracker Co.	1	..	..	..	..	..	1	..	..	..	..	15	Connection to boiler and pump, cracker factory	100 00
483	H. Haller Mfg. Co. (2x2 fire openings; urinal 6 foot pipe)	..	..	..	..	..	1	..	..	..	..	..	70	Tin ware factory	100 00
484	Finlay Dicks & Co.	1	1	1	..	..	1	4	..	..	..	..	40	Wholesale drugs	100 00
485	N. O. Improvement Co.	1	15	6	..	..	3	..	..	..	..	..	29	Bank, offices	100 00
486	F. T. Howard	7	..	6	..	..	..	3	2	1	..	..	8	Connection to heater, family, street sprinkling, garden	100 00
487	Commercial Club	..	..	..	..	..	..	..	..	..	..	..	..	*Certificate destroyed, Building torn down.*	
488	Germania National Bank.	3	8	10	..	..	..	..	..	..	..	..	15	Bank, dentist's office, upper floor vacant.	100 00
489	Chas. Durr	7	..	..	..	..	..	1	..	..	..	..	29	Family, oyster saloon, bar, blacksmith	100 00
											..	..	..	Mineral water depot, carpenter shop	100 00
											..	..	..	Office City Board of Health, shoe and plumber shop	100 00

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TABULATION OF THE INSPECTION CERTIFICATES OF THE NEW ORLEANS WATERWORKS COMPANY.

		Hydrant	W. Basin	W. Closet	W. Tubs	Bath	Urinal	Sinks	Hose Box	Kitchen Range	Horses	Wagons	Persons		
509	Mechanics' and Traders' Ins. Co.	..	..	..	..	..	..	..	..	..	..	..	..	Contract, yearly supply	250 00
510	Martin, Thompson & Co.	16	..	..	..	..	..	..	..	..	193	13	4	Sales stables	250 00
511	H. B. Stevens Co., Ltd.	1	..	4	..	..	1	..	..	..	..	..	25	Clothing store, hydrant, elevator	300 00
512	Keiffer Bros.	..	..	..	..	..	..	..	..	..	..	..	..	Yearly contract, Shoe and leather, 1 boiler and elevator	350 00
513	H. & B. Beer	..	..	..	..	..	..	..	..	..	..	..	..	Yearly contract	362 00
514	Pickwick Hotel	..	..	..	..	..	..	..	..	..	..	..	..	*Inspection certificate destroyed*	425 00
515	N. O. Gas Light Co.	..	..	..	..	..	..	..	..	..	..	..	..	Yearly supply to gas works	425 00
516	N. O. Cotton Exchange	..	..	..	..	..	..	..	..	..	..	..	..	" " "	450 00
517	St. Charles Hotel	..	..	..	..	..	..	..	..	..	..	..	..	Yearly supply ($750 semi-annually))	1,500 00
518	R. Hicks	3	6	12	..	..	6	..	1	..	..	..	30	16 offices and elevator	800 00
519	N. O Rice Co.	..	..	..	..	..	..	..	..	..	.	..	..	Yearly supply	1,000 00

FOLDOUT(S) IS/ARE TOO LARGE TO BE FILMED

1632 MAYORALTY OF NEW ORLEANS,
CITY HALL, *March 13th*, 1896.

No. 12,026, council series.

An ordinance adopting the digest of city ordinances, etc., prepared under the provision of ordinance No. 10,758, C. S.

Be it ordained, That the digest of ordinances prepared under the provisions of ordinance No. 10,758, C. S. being a compilation of all ordinances adopted by the council of the city of New Orleans to the 1st day of January, 1896, be and the same are hereby approved and adopted and shall be of binding force and obligations, subject, however, to such amendments as may have been adopted since the 1st of January, 1896, or that may hereafter be adopted by the council of the city of New Orleans.

Adopted by the council of the city of New Orleans, March 10, 1896.

DAN. A. ROSE,
Clerk of Council.

Approved March 13, 1896.

JOHN FITZPATRICK, *Mayor.*

A true copy:
CLARK STEEN,
Secretary to the Mayor.

1633 MAYORALTY OF NEW ORLEANS,
CITY HALL, *May 22nd*, 1895.

No. 10,758, council series.

Be it ordained, That the mayor of the city be and he is hereby authorized and directed to employ a competent person or persons, whose duty it shall be to make and prepare a careful compilation of the ordinances of the city of New Orleans up to date, and to properly digest and index same, and he shall, also, compile all laws of the State and decisions of the supreme court of the State affecting said ordinances of the city of New Orleans.

Adopted by the council of the city of New Orleans May 21, 1895.

DAN. A. ROSE,
Clerk of Council.

Approved May 22nd, 1895.

JOHN FITZPATRICK, *Mayor.*

A true copy:
CLARK STEEN,
Secretary to the Mayor.

1634 ART. 3147. (1.) That the city attorney on behalf of the city, at present a defendant of record in suit 15,774 of the civil district court, entitled "Edward Conery Jr. *et al. vs.* The New Orleans

Water Works Company *et al.*," be and he is hereby directed to amend, with leave of the honorable the civil district court for the parish of Orleans the answer of the city therein, and to join in plaintiff's demand, and to proceed in order to cause to be vacated the alleged contract under ordinance 909, C. S., between the city and the New Orleans Water Works Company, of date October 3, 1884, before J. D. Taylor, notary, and to have the same pronounced null and void, and of no effect, as being detrimental to the public rights and interest, beyond the powers of the late city administration and in fraud of the rights of the city.

ART. 3148. (2.) That the city attorney be and he is hereby authorized to take such further action in pursuance of this ordinance, relative to said cause, No. 15,774, and entitled "Edward Conery Jr. and others *vs.* The New Orleans Water Works Company, The City of New Orleans and others," as he may deem necessary for the best interests of the city.

ART. 3149. (3.) That all ordinances or parts of ordinances inconsistent with, or contrary to the provisions of this ordinance be and the same are hereby repealed.

1635 UNITED STATES OF AMERICA, *ss*:

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the honorable the judges of the supreme court of the State of Louisiana, Greeting:

Because in the records and proceedings, as also in the rendition of the judgment of a plea which is in the said supreme court before you, or some of you, being the highest court of law or equity of the said State in which a decision could be had in the said suit between The State of Louisiana as plaintiff, The City of New Orleans and The Board of Liquidation of the City Debt, as intervenors, and The New Orleans Water Works Company, as defendant, wherein was drawn in question the validity of a treaty or statute of, or an authority exercised under, the United States, and the decision was against their validity; or wherein was drawn in question the validity of a statute of, or an authority exercised under, said State, on the ground of their being repugnant to the Constitution, treaties, or laws of the United States, and the decision was in favor of such their validity; or wherein was drawn in question the construction of a clause of the Constitution, or of a treaty, or statute of, or commission held under, the United States, and the decision was against the title, right, privilege, or exemption specially set up or claimed under such clause of the said Constitution, treaty, statute, or commission; a manifest error hath happened, to the great damage of the said Now Orleans Water Works Company, defendant, as by its complaint appears. We being willing that error, if any hath been, should be duly corrected, and full and speedy justice done to the parties aforesaid in this behalf, do command you, if judgment be therein given, that then under your seal, distinctly and

openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same in the said Supreme Court at Washington, within 30 days from the date hereof, that the record and proceedings aforesaid being inspected, the said Supreme Court may cause further to be done therein to correct that error, what of right, and according to the laws and customs of the United States, should be done.

Witness the Honorable Melville W. Fuller, Chief Justice of the United States, the 10th day of February, in the year of our Lord, one thousand nine hundred and two.

JAMES H. McKENNEY,
Clerk of the Supreme Court of the United States.

Allowed by—
R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

[Endorsed:] No. 13701. Supreme court of Louisiana. The State of Louisiana *vs.* The New Orleans Water Works Co. Original writ of error from the Supreme Court of the United States. Lodged and filed in the supreme court of Louisiana this 12 day of February, 1902. T. McC. Hyman, clerk.

1636 THE UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

The President of the United States to the State of Louisiana, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at the city of Washington, within thirty days from the date hereof pursuant to a writ of error filed in the clerk's office of the supreme court of the State of Louisiana at New Orleans, wherein The New Orleans Water Works Company is plaintiff and The State of Louisiana, The City of New Orleans and The Board of Liquidation of the City Debt are defendants, to show cause, if any there be, why the judgment rendered against the said New Orleans Water Works Company, as in said writ of error mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Rufus W. Peckham, associate justice of the Supreme Court of the United States, this 10 day of February, in the year of our Lord one thousand nine hundred and two.

R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

Service of the within citation is hereby accepted.
Baton Rouge La. February 19th 1902.

W. W. HEARD, *Governor.*

[Endorsed:] Supreme court of the State of Louisiana. No. 13,701. The State of Louisiana *vs.* The New Orleans Water Works Company. Citation. Sheriff's return. Filed March 3d, 1902. Paul E. Mortimer, dep. clerk.

1637 THE UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

The President of the United States to the City of New Orleans, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States to be holden at the city of Washington, within thirty days from the date hereof pursuant to a writ of error filed in the clerk's office of the supreme court of the State of Louisiana at New Orleans, wherein The New Orleans Water Works Company is plaintiff and The State of Louisiana, The City of New Orleans and The Board of Liquidation of the City Debt are defendants, to show cause, if any there be, why the judgment rendered against the said New Orleans Water Works Company, as in said writ of error mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Rufus W. Peckham, associate justice of the Supreme Court of the United States, this 10 day of February, in the year of our Lord one thousand nine hundred and two.

R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

Service accepted for the City of New Orleans.
PAUL CAPDEVIELLE, *Mayor.*
SAM'L L. GILMORE, *City Att'y.*

[Endorsed:] Supreme court of the State of Louisiana. No. 13,701. The State of Louisiana *vs.* The New Orleans Water Works Company. Citation. Sheriff's return. Filed March 7, 1902. Paul E. Mortimer, dep. clerk.

1638 THE UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

The President of the United States to the Board of Liquidation of the City Debt, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States to be holden at the city of Washington, within thirty days from the date hereof pursuant to a writ of error filed in the clerk's office of the supreme court of the State of Louisiana at New Orleans, wherein The New Orleans Water Works Company is plaintiff, and The State of Louisiana, The City of New Orleans and The Board of Liquidation of the City Debt are defend-

ants, to show cause, if any there be, why the judgment rendered against the said New Orleans Water Works Company, as in said writ of error mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Rufus W. Peckham, associate justice of the Supreme Court of the United States, this 10 day of February, in the year of our Lord one thousand nine hundred and two.

R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

BOARD OF LIQUIDATION CITY DEBT,
By R. M. WALMSLEY, *President.*

Service accepted.
BRANCH K. MILLER,
Attorney for the Board of Liquidation of the City Debt.

[Endorsed:] Supreme court of the State of Louisiana. No. 13,701. The State of Louisiana *vs.* The New Orleans Water Works Company. Citation. Sheriff's return. Filed March 7, 1902. Paul E. Mortimer, deputy clerk.

1639 THE UNITED STATES OF AMERICA:

Supreme Court of the State of Louisiana.

The President of the United States to the State of Louisiana, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States to be holden at the city of Washington, within thirty days from the date hereof pursuant to a writ of error filed in the clerk's office of the supreme court of the State of Louisiana at New Orleans, wherein The New Orleans Water Works Company is plaintiff and The State of Louisiana, The City of New Orleans and The Board of Liquidation of the City Debt, are defendants, to show cause, if any there be, why the judgment rendered against the said New Orleans Water Works Company, as in said writ of error mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Rufus W. Peckham, associate justice of the Supreme Court of the United States, this 10 day of February, in the year of our Lord one thousand nine hundred and two.

R. W. PECKHAM,
Associate Justice of the Supreme Court of the United States.

Service of the within citation accepted.
New Orleans February 18th 1902.

WALTER GUION,
Attorney General of Louisiana.

[Endorsed:] Supreme court of the State of Louisiana. No. 13,701. The State of Louisiana *vs.* The New Orleans Water Works Company. Citation. Sheriff's return. Filed March 3, 1902. Paul E. Mortimer, deputy clerk.

1640 UNITED STATES OF AMERICA, }
State of Louisiana. }

Supreme Court of the State of Louisiana.

I, Thomas McCabe Hyman, clerk of the supreme court of the State of Louisiana, do hereby certify that the foregoing one thousand six hundred and thirty-nine (1,639) pages, do contain a full, true and complete copy of the proceedings, except in the particulars mentioned in the agreements entered into between counsel to be found on pages 1629 and 1630, had in the civil district court for the parish of Orleans in a certain suit wherein The State of Louisiana was plaintiff, The New Orleans Water Works Company was defendant, The City of New Orleans was intervenor, and The Board of Liquidation of the City Debt were also intervenors, and also of all the proceedings had in this supreme court on the appeals taken by the State of Louisiana and by the City of New Orleans, which appeals are now on the files thereof under No. 13701.

In testimony whereof I have hereunto set my hand and affixed the seal of this honorable court, at the city of New Orleans this eighth day of March, in the year of our Lord, one thousand nine hundred and two and in the one hundred and twenty-sixth year of the Independence of the United States of America.

Seal Supreme Court of the State of Louisiana.

T. McC. HYMAN, *Clerk.*

Endorsed on cover: File No. 18443. Louisiana supreme court. Term No. 590. The New Orleans Water Works Company, plaintiff in error, *vs.* The State of Louisiana, The City of New Orleans and The Board of Liquidation of the City Debt. Filed March 10, 1902.

ANNUAL REPORT

OF THE

NEW ORLEANS

Water Works Company

TO THE

BOARD OF DIRECTORS.

April 10th, 1879.

NEW ORLEANS:
F. F. Hansell, Stationer and Printer, 30 and 36 Camp St.
1879.

OFFICE NEW ORLEANS WATER WORKS COMPANY,
New Orleans, April 10th, 1879.

Hon. Board of Directors New Orleans Water Works Co —

Gentlemen :—I herewith submit my annual report, embracing dates of April 10th, 1878, and April 9th, 1879.

The water supply of New Orleans has been inadequate to the wants of its citizens for many years past, and the fact of its management again devolving upon a private corporation has perhaps excited too sanguine expectations for immediate results; yet I am happy to state that as rapid progress has been made as circumstances would permit.

In assuming the administration of the affairs of the company I was certainly not much prepossessed with the condition of its works and property. The two basins facing St. Thomas street were a mass of ruins; the other two facing Religious street were filled with a deposit averaging over two feet; the cribs were in a dilapidated condition; the river had shoaled and formed a bar at the mouth of the influent pipes, and the distribution was the result of thirty years of patchwork. My first attention was directed to placing the works in as good condition as possible, to insure against accidents. The two basins are being rebuilt; the cribs have been repaired and faced with wire screens; the bar has been dredged eighteen feet below low water mark, and the system of distribution submitted by Mr. Moses Lane, hydraulic engineer, and adopted by you, will unquestionably remedy the great evils so much complained of in this community. The lack of water supply resulted more in the imperfect distribution and improper connections, than from a lack of power at the pumping station.

Although the water delivered to consumers is heavily charged with sediment, my first study was devoted to supplying an abundance, such as it is, and leaving the problem of clear water to be solved after this has been accomplished. The delivery of filtered water from the Mississippi river is an acknowledged possibility, through subsidence and filtration, but the expense attendant thereon must deter us from adopting

this system at present. It would be the culmination of my highest ambition to deliver clear water from the Mississippi; and I feel firmly convinced that in this age of progression we will reach that point, either through natural filtration or by some less expensive system than the one above mentioned. I can assure you that nothing will be left undone by me which may lead to that end; for, aside from the great benefits to be derived by the community at large, the company would be a great beneficiary through the certainly increased revenues.

The greatest evil with which I have had to contend is in the easy accessibility to the fire-hydrants. The waste of water by irresponsible parties tampering with these hydrants would represent fully one-tenth of the total quantity pumped. I am endeavoring to remedy this by placing new locks and catches, and by the substitution of an improved iron hydrant, with a pentagonal screw; and hope, at no very distant day, to rid ourselves of those antique landmarks of wooden-case hydrants, which disfigure some of our principal streets.

The collection of rates by the system of assessment is compulsory, as there is no meter yet invented that will register with the present sedimentary character of the Mississippi river. I have endeavored to make the assessments as equitable as possible; but have encountered the greatest difficulty only with those who would prefer having a free supply. Many evils have arisen under this system, owing to changes in the administration; and the tariff of rates now established is both just and equitable, and should be maintained, and not departed from, except under the most urgent circumstances.

I deem it advisable to substitute iron for the cement pipe, as the constant leaks in the latter would make the substitution economical. This would involve an expense of less than ten thousand dollars.

The pumping capacity of the new engine is about fourteen million gallons, with one hundred feet lift, per twenty-four hours; that of the old engine about seven million gallons, with fifty feet lift, in twenty-four hours. In order to ensure a continued pressure or head of thirty feet at all points where the pipes are now laid, it will be necessary to use the new engine

daily, and hold the old one in reserve for filling the reservoir during the night. I would recommend the building of a new engine of the capacity of twenty-five million gallons, with one hundred and fifty feet lift, per twenty-four hours. There is ample room for the construction of an engine-house on the batture square fronting the works, which is the property of the company.

The labor performed and the material used are the vouchers of the work accomplished, without my entering into details.

The question of increased revenue from the contemplated improvements is somewhat difficult to answer; but believing that out of the six thousand hydrants or private services now closed most of them became so from a deficient supply, I feel satisfied that it would be fair to average the opening of two thousand, which would more than compensate for the interest on the expenditure.

Under section nine of the charter the company are authorized to "borrow money for the purpose of improving and enlarging its works" In view of this authority a mortgage loan of five hundred thousand dollars was executed on April 1st, current year, for thirty years, bearing six per cent. interest, payable semi-annually. In the execution of a mortgage for this amount it was intended to cover any and all possible improvements that might be required to place the works and property of the company in first class condition, presuming that the ends would justify the means. The call was made for one hundred and fifty thousand dollars, to accomplish the most essential needs —as it is a notorious fact that there has been an outcry against the water works department of this city for years (principally by the fire department), that there was no supply of water for the extinguishment of fires in the districts where the pipes are now laid. To cover this deficiency, and others, the expenditure of about the amount mentioned would remedy the evil and stop the cry.

The improvements now progressing and contemplated are the rebuilding of the two basins, the construction of a stand pipe one hundred and fifty feet in height, and the following distribution:

THIRTY-SIX INCH PIPE:

From stand pipe to Tchoupitoulas street	200 feet.
In Thoupitoulas to Race	583 "
In Race, from Tchoupitoulas to Camp	2550 "
Total of thirty-six inch pipe	3733 "

THIRTY INCH PIPE.

In Camp and ~~St. Charles~~ Charters from Felicity Road to Elysian Fields	12,591 feet.

TWENTY INCH PIPE:

In Poydras, from Magazine to Rampart	2230 feet.
In Elysian Fields, from Peters to Dauphine	1442 "
Total of twenty inch pipe	3672 "

TWELVE INCH PIPE:

In Julia, from Magazine to Rampart	2260 feet.
In Jackson, from Magazine to Prytania	1570 "
Total of twelve inch pipe	3830 "

EIGHT INCH PIPE:

In Liberty, from Canal to Bienville street	810 feet.
In St. Charles, from First to Sixth street	1740 "
In Perdido, from Magnolia to Johnston street	2085 "
In Conti, from Decatur to Rampart street	2330 "
In St. Philip, from Peters to Rampart street	2375 "
In Barracks, from Peters to Bourbon street	1530 "
In Common, from Magazine to Baronne street	1660 "
Total of eight inch pipe	12530 "

SIX INCH PIPE:

In Philip, from Magazine to Constance street	380 feet.
In Johnson, from Perdido to Gravier street	770 "
In Villere, from Canal to Bienville street	800 "
In Prytania, from Felicity to Jackson street	1300 "
In Customhouse, from Royal to Rampart street	1570 "
Total of six inch pipe	4820 "

The estimated cost of all will reach about one hundred and seventy thousand dollars. We could not have fallen upon a more propitious time than the present for executing this work.

The contract for pipe was awarded to Messrs R. D. Wood & Co. of Philadelphia, at $23.23 per ton, delivered on the levee, which is said to be the lowest contract that has ever been made in the United States.

Owing to unavoidable delays in preparing and placing the bonds, it will be impossible to lay over one thousand tons of pipe prior to the 15th June, which date will be the limit to which we will be permitted to make excavations; but the other portions of the work will be proceeded with during the summer months. The entire work mapped out will be completed about February 1st, 1880.

A sufficient number of bonds have been placed to cover all possible outlay between this and the first of October next, and I have no doubt that more can be placed as the money is needed.

Respectfully,

EDWARD TOBY,

President and Superintendent.

RECAPITULATION OF WATER PUMPED FROM APRIL 10TH, 1878, TO APRIL 10TH, 1879.

	Gallons pumped.	Hours.
1878.		
April, from 10th to 30th, inclusive	150,847,600	401
May " " " "	231,441,860	601
June " " " "	240,794,660	574¼
July " " " "	268,885,160	597¾
August " " " "	308,209,640	680
September " " "	293,141,180	662
October " " "	289,569,900	654¾
November " " "	271,240,580	632½
December " " "	251,433,300	573½
1879.		
January " " "	215,406,360	585¼
February " " "	199,574,700	521
March " " "	226,254,200	475
April, from 1st to 10th	67,560,200	168½
	3,014,350,340	7226½

Cost of coal per million gallons	$3.19
Total cost of operating at pumping station, including coal, per million gallons	$6.08
Hours worked new engine	1360
Hours worked old engine	5866½
Total number of miles of pipe	63
" " hydrants or private services	10997
" " " " " open	5033
" " " " " closed	5964

REPAIRS, ETC.

FIRE HYDRANTS

Repaired and packed. 506

Material used—51 gum valves, 54 iron rods, 26 copper rods, 241 iron stirrups, 16 covers, 5 iron cases, 231 half inch bolts, 156 cast iron flanges, 117 iron screws, 12 brass screws, 2 goose necks, 24 new wooden cases, 47 new front staveshooks, 50 pounds three-quarter inch washers.

STOP GATES

Repaired and packed. 140

Material used—33 screws from 3 to 18 inch, 289 packing box bolts and nuts, 90 five-eighth inch bolts and nuts, 30 pounds three-quarter inch washers, 1 new packing box cap, 35 pounds packing yarn.

LEAKS.

Cement pipe. 55

Iron pipe. 167

Material used—281 pounds pig lead, 165 pounds white lead, 18 pounds red lead, 75 pounds packing yarn, 55 pounds tarred marlin, 25 yards rubber cloth, 25 yards cotton, 3 bbls. cement.

PAVING.

1627 yards brick, 1682 yards stone, 474 yards flagging.

STREET SERVICE

924 feet 6 inch pipe, 1 10x16 special, 3 6x4 special, 4 4 x 3 inch reducers, 1 10 inch sleeve, 1 6 inch stop gate, 75 feet 3x4 lumber, 1 wooden case for stop gate, 1 iron case for stop gate, 914 pounds pig lead, 96 pounds hemp packing yarn, 449 yards paving, 2 3x3 specials, 5 4 inch sleeves, 131 feet three-quarter inch lead pipe.

PUMPING SERVICE.

Number of	gallons of oil	611
"	pounds of tallow	2072
"	barrels of coal	27421
"	pounds packing	506
"	cotton waste	596

Cash Receipts for year ending April 9th, 1879.

Water rates—		
Received for water rates	$99,737.92	
Less refunded	20.00	$99,717.92
Street service repairs—		
Received from plumbers for extra work and taps		320.50
Pumping service—		
Received for old iron, brass and copper sold		195.89
Bonds—		
Received for 50 improvement bonds of $500 each, sold at par		25,000.00
		$125,234.31

Cash Expenditures for year ending April 9th, 1879.

Pumping service—	
Paid for coal consumed	$6261.85
" Salaries and wages of engineers, firemen, etc	6240.00
" Oil, tallow, packing, waste, etc	1319.48
" Repairs of machinery, boilers, etc	1063.37
" Cleaning reservoirs	903.35
" Dredging in front of suction pipe, etc	443.77
Hydrant service—	
Paid for salaries and wages	5675.48
Street service repairs—	
Paid for materials and wages	5384.34
Office salaries and expenses—	
Paid for salaries and wages	7749.86
" Books, stationery, etc	389.96
" Rent, traveling expenses, furniture, gas fitting, etc	1322.18
" Advertising and printing, etc	348.00
" Notary and attorney's fees	450.00
New improvements—	
Paid for new improvements	5953.08
New Orleans Water Works Company stock—	
Paid for 250 shares N. O. W. W. Co. stock at $33	8250.00
Materials and fixtures—	
Paid for materials and fixtures on hand	1674.00
Coal account—	
Paid for 8163 bbls. Pitsb'rg coal on hand, at 32½c.	2652.97
Deposit in the N. O. Gas Light Co	10.00
Cash on hand	66,142.62
	$125,234.31

Assets N. O. Water Works Company.

Invested capital, purchase of works	$2,000,000.00
" " new improvements	5,953 08
Coal on hand	2,652.97
Materials on hand	1,674.00
N. O. Water Works stock, 250 shares, at $33	8,250.00
Deposited in the N. O. Gas Light Co	10.00
Cash on hand	66,142.62
	$2,084,682 67

Liabilities N. O. Water Works Co.

Capital stock	$2,000,000.00
Bonds	25,000.00
Profit and loss	59,682.67
	$2,084,682.67

OFFICE NEW ORLEANS WATER WORKS CO,
April 23d, 1879.

At a meeting of the Board of Directors held this day, it was *Resolved*, that a dividend of two dollars per share, out of the nett earnings, is declared payable to the stockholders on May 1st, 1879.

[Attest] ALEX. BONNEVAL,
Secretary.

4165

ANNUAL REPORT

—OF THE—

NEW ORLEANS WATER WORKS COMPANY,

—TO THE—

BOARD OF DIRECTORS.

APRIL 10TH, 1880.

NEW ORLEANS:
A. W. Hyatt, Stationer and Printer, 38 Camp Street.—16,442.
1880.

OFFICE OF THE NEW ORLEANS WATER WORKS CO.
NEW ORLEANS, April 10th, 1880.

Honorable Board of Directors:

GENTLEMEN—In accordance with Art. 2 of the By-Laws, I herewith submit my annual report, ending April 9th, 1880.

Under Sec. 13 of the Charter, it became obligatory upon the Company, six months after its organization "to proceed to the erection of new works and pipes sufficient in capacity to furnish a full and adequate supply of water," and the limit for the completion of said improvements was fixed on the 10th October, 1883. A study of the plan of distribution, and the evidences of the work already accomplished, will prove the compliance on our part with the provisions of the Charter in three years less than the time allotted.

The obstacles that presented themselves to me in the execution of this work, were of no mean character; and I am now happy to say that, under all difficulties, we have now established as perfect a system of water works as is justified by present needs and demanded by the community.

The pipe-laying was again commenced in May last, and continued until 15th of June, when I was requested by the Board of Health to discontinue all excavations.

The foundations and work on the stand-pipe proceeded during the summer months.

Pipe-laying was resumed in the early part of November, and has proceeded daily ever since, with little interruption caused by bad weather. I have substituted iron for the cement pipes in many places, and it is my intention to remove the balance of it as soon as practicable.

In lieu of substituting the three and four inch pipes on some of the streets below Canal, running at right angles with the river, I have flushed them with the aid of a steam fire engine, thereby removing the deposit that has accumulated in them for years past, to such an extent as to prevent the flow of water.

On Customhouse, Conti and St. Phillip streets, six and eight inch pipes have been substituted, and no complaint exists now of a deficient supply, even under the present distribution; therefore, after connection is made to the stand-pipe there will be an average head of forty feet at the most extreme points of the line.

The Second and Third Districts have never been supplied, for a lack of proper distribution, and this difficulty being removed, I am encouraged in the opinion that the revenues of the Company will increase from these districts in a greater proportion than the first.

The stand-pipe is completed, and will be connected with the engines about 15th of May. The delay in the arrival of our last cargo of pipe was occasioned by an accident to the vessel, before loading, which has prevented the connection being made earlier.

I submit, herewith, the names of streets, with diameter and number of feet of pipe laid therein, measuring over seven miles, and when the diameters of said pipes are taken into consideration and compared with those previously laid, it is patent to any one that a great improvement and change will be worked in the delivery of the water.

I have contracted for a Knowles' Compound Pumping Engine, with a capacity of five million gallons in twenty-four hours, and a lift of one hundred and twenty-five feet. It will be erected on the square fronting the present works, on the northeast corner of Peters and Orange streets.

The present pumping power is in a small engine of seven millions, and a larger one of fourteen millions capacity. I have deemed it advisable to erect this auxilliary engine, as I considered it unsafe to be dependent solely upon the two engines now in use. It would require at least twelve months to build a twenty-five million engine, and there being no justification in doing so at present, both Mr. Lane and myself deemed it wise to

make the outlay, as a precaution against accidents, and, at the same time, as an auxilliary power to maintain the head which I propose keeping after connection with the stand-pipe is made.

In the event of a large fire occurring, two engines can be put in use at the same time, which is not possible as they stand to-day. The cost of running the new engine, with the improved boilers, will be about forty per cent. less than running the smaller one now in use, and particularly economical in keeping up the supply during the night.

The question of clear water is still occupying my attention, but, as I stated in my last report, subsidence and filtration, on the scale requisite for the city consumption, would involve an expense that is not justified at present.

Filters are now being made for domestic purposes on an economical scale, that can be attached to the hydrants, and the water discharged clear at the rate of five hundred gallons per day, which is in great excess to the demand.

To deliver filtered water through our mains would require a separate distribution for street purposes, which can be made at an inconsiderable cost, having a thirty, sixteen and eight inch that can be detached for that purpose; therefore, the only obstacle would be the expense of settling basins and filtration beds and the conduits or mains to draw the water, by gravitation, to the pumping station. The increase in consumption would undoubtedly necessitate greater pumping power, but that expense would be insignificant to the revenues that would accrue to the Company from the delivery of clear water. I will furnish the Board with an approximate cost of basins, beds, etc., at as early a date as possible.

It is my confident belief that all the work now in hand will be completed about the 25th of May, including the thirty inch main to Esplanade street. All excavations will cease June 1st.

The many uses to which water power can be applied, leads me to believe that, so soon as the community feel guaranteed in its

permanency, there will be many industries that will take advantage of it, and thereby materially increase the revenues of the Company. I do not look for it immediately, because we are slow in adapting ourselves to anything new, notwithstanding all precedents in other cities. The labor saving and economy of using water power, above all others, will force us, from self-interest, to adopt it.

There are 6115 hydrants or private services closed, against 4953 open, and the cause of such a proportion being closed is certainly attributable to the lack of supply; therefore, the supply being given and guaranteed, the demand should be created.

The running expenses have been in excess of last year owing to the advanced price in coal, and our increased consumption from running the larger engine for the entire summer and late in the fall, owing to the low stage of the river.

I submit the statements of the Secretary, and also balance sheet, showing cash on hand $65,461 19.

The amount of bonds issued to date is $182,500, and payments yet due on pipe, with the ten per cent. reserve, and the entire cost of engine, boilers, enginehouse and balance due contractors, will not exceed $235,000, this amount being the cost of all improvements contemplated.

Respectfully,

EDWARD TOBY,

President and Superintendent.

PIPES LAID TO DATE.

THIRTY-SIX INCH PIPE—		
Race street, from Religious to Camp	2,325.5	
Total		2,325.5
THIRTY INCH PIPE—		
Camp street, from Race to Canal	6,776.7	
Chartres street, from Canal to near St. Ann	2,275.6	
Total		9,052.3
TWENTY INCH PIPE—		
Poydras street, from Magazine to Rampart	2,168.5	
Total		2,168.5
TWELVE INCH PIPE—		
Julia street, from Rampart to near Magazine	2,181.	
Jackson street, from Magazine to Prytania	1,570.	
Total		3,751.
EIGHT INCH PIPE—		
St. Charles street, from First to Sixth	1,710.	
Liberty street, from Canal to Bienville	810.	
Perdido street, from Magnolia to Johnson	2.084.6	
Conti street, from Decatur to Rampart	2.330.	
St. Philip street, from Peters to Chartres	510.	
St. Philip street, from Bourbon to near Roman	3.660.	
Villeré street, from Bayou Road to St. Philip	785.	
Villeré street, from Canal to Bienville	800.	
Derbigny street, from St. Ann to St. Philip	765.	
Total		13,454.6

SIX INCH PIPE—

Customhouse street, from Decatur to between Royal and Bourbon	960.	
Customhouse street, from between Royal and Bourbon to Rampart	1,330.5	
Philip street, from Magazine to Constance	380.	
Prytania street, from Jackson to Felicity	1,300.	
Josephine street, from St. Charles to Prytania.	540.	
St. Andrew st., from St. Charles to Magazine	2,075.	
St. Ann street, from Claiborne to Roman	711.	
Tremé street, from St. Philip to Dumaine	390.	
Total		7,686.5

Total of Pipes laid, 38,438.4 feet, or 7.28 miles.

WATER PUMPED FROM APRIL 10TH, 1879, TO APRIL 9TH, 1880.

	Gallons.
April 10th to 30th, 1879	156,168,000
May	248,337,800
June	260,762 000
July	299,528,000
August	284,914,200
September	265,247,600
October	273,078,000
November	260,564,000
December	252,834,800
January, 1880	233,740,000
February	215,003,600
March	238,919,000
April 1st to 9th	65,665,000
Total gallons	3,054,762,000

COAL CONSUMED.

From April 10th, 1879, to April 9th, 1880, Engineer's report	31,734 barrels.
Oil consumed	803 gallons.
Tallow consumed	1,858 pounds.
Packing	450 "
Cotton waste	662 "
Hours worked—new engine	2,108 hours.
Hours worked—old engine	5,189 "

REPAIRS, ETC.

FIRE HYDRANTS.

Repaired and packed 431

Material used—73 iron rods, 38 copper rods, 250 iron screws, 3 brass screws, 228 stirrups and nuts, 222 cast iron valve flanges, 35 cast iron cases and covers with hinges, 18 cast iron covers, 3 brass nozzles, 42 brass nuts, 1 cast iron frame and cover, 10 wooden cases, 161 gum valves, 48 cast iron valves with screws, 18 cast iron top covers, 7 packing box caps, 7 ferrules, 28½ inch bolts, 110 lead joints, 112 caulking joints, 45 new front staves and hooks, 3 new wooden cases.

STOP GATES.

Repaired and packed 203

Material used—37 screws from 2 to 18 inch, 404 packing box bolts and nuts, 195 pounds packing yarn, 90 pounds cut nails, 124 caulking joints, 3 new cases, 20 new frames, 30 pounds ⅞ washers, 38 ⅞-inch bolts and nuts, 132 ⅝-inch bolts and nuts, 10 packing box caps, 28 brass nuts.

LEAKS.

Cement pipe 32
Iron pipe 97
On broken service and main pipe 76

Material used—50 yards cotton cloth, 25 yards rubber cloth, 75 pounds white lead, 10 pounds red lead, 25 pounds sheet lead, 57 pounds tarred marlin, 8 barrels cement, ½ barrel boiled oil.

Taking up blow off, corner Carondelet and Polymnia, and setting new Holly fire hydrant—1 4x6 reducer, 1 8-inch wrought iron band, 2 ⅝ iron bolts and nuts, 25 pounds pig lead, 3 pounds packing yarn.

FOR PUMPING SERVICE.

1 4-inch stop gate, 1 8-inch stop gate, 175 feet 8-inch pipe, 30 feet 12-inch pipe, 1 4x6 reducer, 1 4x8 reducer, 1 8-inch sleeve, 1 12-inch sleeve, 4 6-inch wrought iron bands.

WORK DONE FOR CITY PLUMBERS.

29 trenches, 34 taps in mains, 1 ¾ stop cock ferrule, 2 ¾ inch stop cock ferrules.

PAVING.

1465 yards brick, 665 yards flag, 1700 yards stone.

Cash Receipts for year ending April 9th, 1880.

To water rates—		
Received for water rates	$91,374 63	
Less refunded	35 00	
		$91,339 63
To street service repairs—		
Received from plumbers for extra work and taps		213 70
To pumping service—		
Received for old brass and copper sold		22 40
To materials and fixtures—		
Received for old iron sold		284 05
To bonds—		
Received for 315 improvement bonds of $500 each, sold at par		157,500 00
To N. O. Water Works Company stock—		
Received for 250 shares, sold at $33		8,250 00
To cash on hand April 9th, 1879		66,142 62
		$323,752 40

New Orleans, *April 9th*, 1880.

ALEX. BONNEVAL, Secretary.

Cash Expenditures for year ending April 9th, 1880.

By new improvements—		
Paid for iron pipe and specials, etc.	$122,455 90	
Paid for pipe laying	24,994 47	
Paid for stand-pipe	16,128 98	
Paid for building reservoirs, engineers' salaries, etc	15,165 28	
		$178,744 63
By pumping service—		
Paid for coal consumed, oil, tallow, waste, etc	14,871 44	
Paid salaries and wages of engineers, firemen and laborers, etc	6,116 24	
		20,987 68
By office salaries and expenses—		
Paid for salaries and wages, office rent, books, stationery, etc		10,186 03
By hydrant service—		
Paid for salaries and wages		5,407 00
By street service, repairs—		
Paid for materials and wages		5,134 23
By dividend No. 1—		
Paid for dividends		35,250 00
By attorneys and court expenses		1,581 64
By bills receivable		1,000 00
By cash on hand April 9th, 1880		65,461 19
		$323,752 40

Assets N. O. Water Works Company.

Invested capital, purchase of works	$2,000,000 00
Invested capital, new improvements	185,256 52
Materials on hand	1,389 95
Bills receivable	1,000 00
Deposited in the N. O. Gas Light Company	10 00
McNeals & Archer	10 00
Cash on hand	65,461 19
	$2,253,127 66

New Orleans, *April 9th*, 1880.

ALEX. BONNEVAL, Secretary.

Liabilities N. O. Water Works Company.

Capital stock	$2,000,000 00
Bonds	182,500 00
Dividends unpaid	4,750 00
R. D. Wood & Co.	269 98
Mac Ritchie & Nichol	298 83
Profit and loss	65,308 85
	$2,253,127 66

OFFICE OF NEW ORLEANS WATER WORKS COMPANY,)
NEW ORLEANS, April 23d, 1880.)

At a meeting of the Board of Directors, held this day, a dividend of two dollars and fifty cents per share was declared, payable to the stockholders on May 1st, 1880.

ALEX. BONNEVAL, Secretary.

4166

ANNUAL REPORT

OF THE

NEW ORLEANS WATER WORKS COMPANY,

TO THE

BOARD OF DIRECTORS.

APRIL 10TH, 1881.

NEW ORLEANS:
James Buckley, Stationer and Printer, 51 Carondelet Street.
1881.

Office of N. O. Waterworks Co.
April 10th, 1881.

HON. BOARD OF DIRECTORS,

Gentlemen:

In submitting this, my third annual report, it affords me great pleasure and satisfaction to announce that the work entrusted to me by you has been accomplished.

Lacking an education in engineering myself, and although encountering Engineers on every street corner, ready with wise suggestions, I concluded to seek the best talent in the United States, and to that eminent Engineer, Mr. Moses Lane, is due the credit of effecting a distribution that would deliver water to every portion of the city with a uniform head. At this time the elevation is kept at fifty to sixty feet—the demand for any greater height has not yet arisen, and I find that this will more than cover all present requirements.

It is impossible for me to give in detail, the wrecked and dilapidated condition of everything appertaining to the system. I am free to say that it was a fortunate circumstance for the entire community, that the Works passed into the hands of a private corporation, else to-day there would have been but a scarce water supply for this city. I do not desire to reflect upon any former administrations, nor to extol my own, but the fact is patent to every one that the city would never have been in the financial condition to have warranted the outlay of money required on the work now completed.

CLEAR WATER.

It has always been my hope that the Company would be able to deliver clear water, so soon as the adequate distribution was completed, but the serious difficulties that surround the question, prevents my recommending it at this time.

Subsidence and filtration will surely accomplish it. The extent of territory required for settling basins and filtration beds, that would deliver not less than twenty million gallons per day, would necessitate such an outlay of money, as to leave great doubts in my mind whether the Company would be compensated for it. Subsidence alone would be an improved character of the water, with less sediment, but not clear, and the same prejudice that now exists against river water, might not be overcome. For these considerations I would suggest that the question of delivering clear water be deferred, until this progressive age may develop some more economical way by filtration at the inlet of the suction mains. Until such time the manufacture of an inexpensive filter, would be advantageous to the Company and promote the health of our city. It is an undisputed fact that the Mississippi river water filtered, is by far superior to the rain water stored in cisterns, more or less contaminated by the washings of the house tops, and at times stagnant, which under the peculiar conditions of our streets and gutters, does not make a palatable drink, nor can it be very conducive to health.

RESERVOIRS.

The topography of our city does not admit of other than low service reservoirs, which to us is a great disadvantage, necessitating continuous pumping to keep up the required head of fifty feet.

Our Reservoir is on an artificial elevation of twenty-eight feet, and the present capacity of the two basins is two million gallons. As stated in a former report, two of the basins fronting on St. Thomas street, had given way some eight years since and have never been repaired. A large force is now at work upon them, and I think the repairs will be so substantial as to avoid the recurrence of such an accident. When finished, the storage capacity will be four million gallons, a quantity totally inadequate for a day's supply, should they ever be needed, but with the three separate engines, there is scarcely any prob-

ability of their ever being relied upon, except during the night or in the event of a large fire. The valves leak very badly, which detracts somewhat from the head and necessitates the stopping of the engine several hours of the night, so as to permit the consumption to reduce them several feet, in order to receive the leakage of the next day. New sixteen inch gates will be substituted and the unnecessary outlets plugged. Heretofore it has been impossible to shut off the water from the Reservoirs without stopping the engines and shutting off the city supply.

I have recently put in a thirty inch gate on the force main, between the stand pipe and the reservoirs, so as now to have perfect control of the engine yard and reservoirs. In the event of necessity, we can pump either through the stand pipe or direct into the distribution, or if need be, exclusively into the reservoirs. No one not familiar with the construction of these basins and their surrounding connections, can imagine the imminent risk under which we have been working, ever since the organization of the Company, and it is a great sense of relief to me to know that I now have the city supply under control.

If we had a natural elevation of one hundred feet, upon which to erect high service basins, those now in use could be dispensed with, but not having one and having the other, we must utilize it to the greatest advantage.

ENGINES.

The pumping capacity of the engines is twenty-six million gallons per twenty-four hours. The oldest one has been in use since 1847 and is now dismantled, undergoing a thorough repair, so to insure her pumping against a head of seventy-five feet. Her capacity is seven million gallons.

The largest one was built by the Novelty Iron Works, of New York, in 1868, and has lately been overhauled and repaired. Her capacity is fourteen million gallons under a head of one hundred and twenty-five feet.

The new engine was built by the Knowles Steam Pump Works and put up in July, 1880. Her capacity is 5 million gallons under a head of 150 feet.

In recommending the purchase of the Knowles Pump, I foresaw the necessity of an auxilliary engine, and time has proven, that without it, we would have been seriously embarassed.

The present does not justify me in urging the purchase of an engine of a larger capacity than any of those we now have, but with the bright future that is before us for this city, it may not be a great length of time before the Company may be compelled to build one; but should the contingency arise, there will be full justification for the expense.

The boilers of main engines have been examined and such repairs made as were necessary, but it would certainly be more advantageous to have an extra battery if the expense thereof was not so great, yet this can be deferred until such time as the demands upon the Company will require the erection of a new engine. In that event, the boiler house can be built on the newly acquired property and so connected with the present engines, as to be used at will in case of repairs or in substituting the present ones.

PROPERTY, ETC.

The square bounded by New Levee, Water, Richard and Front streets, had never been filled since its formation by the accretions from the river, and it was a pond with an average depth of 6 feet of water, less that portion through the centre running to the river front and used as a public street. That portion of it nearest Orange street has been filled in and fenced and is now the site of the Knowles Pump, and also used as a pipe yard.

The shed of the Cotton Press Yard adjoining the Pumping Station and fronting Orange street, was in too close proximity to the large engine house and the risk of fire induced me to

recommend the purchase of the one-half adjoining the yard, 64 feet front on New Levee and Tchoupitoulas, by 384 feet deep. It will undoubtedly be of great value to the Company in the future, should the demand for water necessitate the building of a larger engine and boilers for same.

The real estate now owned by the Company consists of one square bounded by Richard, Market, Religious and St. Thomas; one square bounded by New Levee, Water, Richard and Orange streets; ¾ square bounded by Tchoupitoulas, New Levee, Orange and Richard streets. The material on hand, consisting of bricks, slate and lumber from the Cotton shed purchased, is valued at $800.

INLETS.

I found the 30 and 48 inch suction mains enclosed in dilapidated cribs, without screens. The batture accretions had formed around them and a bar in front, leaving only large holes from which to draw the water and forcing me to keep a canal dredged until I could extend them. During the lowest stage of the river in November last, I extended the 48 inch main 72 feet and the 30 inch main 79 feet. Substantial cribs with screens have been built and there is an average depth of 17 feet at low water mark. If a harbor line should be established by the city, it will obviate any further extentions.

STAND PIPE.

The former system of pumping was direct into the mains and under the recommendation of Mr. Lane, the stand pipe was built and is now connected with the three engines. The diameter at the base is six feet, tapering to 4 feet at the top. 150 feet in height, of boiler iron and double rivetted It has been filled to a height of 140 feet and is a perfect success in every respect.

PIPE LAYING.

The magnitude of this work with the many difficulties and obstructions that have been overcome, can scarcely be appre-

ciated. Great credit is due to the contractors, Messrs. MacRitchie and Nichol, for the skillful and workmanlike manner in which they have executed their contract. The imperfect data at hand to guide them as to existing pipes, the quicksands encountered on the lines of 36 and 30 inch mains, together with many minor obstructions, compels me to award them great praise for the manner in which they conducted their work and the little interruption they caused to travel or traffic.

The 36 inch main runs from the stand pipe down Tchoupitoulas to Race street, thence to Camp connecting with Religious, Annunciation and Magazine. At Camp and Race it is reduced to 30 inches running down Camp and Chartres to Esplanade street, a distance of 11446 feet, connecting with Calliope, Delord, Julia, Poydras, Common, Canal, Conti, St. Ann, St. Phillip, Hospital and Esplanade streets.

This of itself, is an immense work and the future growth of the city in any direction is provided for in this distribution.

The most important section of the city to be supplied, was the 2nd District, as our largest revenues were derived therefrom and there can be no cause of complaint, even at the extreme end of our lines at Piety street.

The cross mains are on Jackson street, 12 inches.

Felicity	"	18	"
Calliope	"	16	"
Julia	"	12	"
Poydras	"	20	"
Canal	"	16	"
Conti	"	8	"
St. Peter	"	8	"
St. Phillip	"	8	"
Esplanade	"	10	"

The distribution is perfect and the head uniform.

During some former administration, cement lined pipes had been laid in different portions of the city and they have been a source of great trouble and expense ever since, and the increased pressure necessitated my substituting all of them with

4167

lead and cast iron pipes, varying in sizes from 1½ to 6 inches.

The improved pressure has developed some remarkable work of wrapping cracked and defective pipes with marlin, and many other curiosities worthy of the dark ages. As it was never conceived possible that the pressure in the mains would ever reach over 10 lbs, this work was considered satisfactory. I have no doubt that there are many instances that will come to my notice, and I have therefore taken the precaution to keep in stock, all sizes of pipe and castings, so as to meet any emergency.

By reference to Inventory, the new stock on hand and paid for amounts to $12,060 38.

It is not probable that any further demands will be made upon the Company for extension of pipes, although the 4th District is sadly deficient from Jackson street to Louisiana Avenue. My experience thus far in pipes laid in that District, is not encouraging. The extensions made do not yield the revenue that the outlay justifies. Although there is a universal desire that the mains should be laid as a safeguard against fire and the reduction of fire premiums, yet there has not been manifested a willingness to subscribe for private services. I would not therefore recommend the extension of pipes to any point, unless the 10 per cent. revenue on the cost is guaranteed by the applicants.

An instance occurred in the 2nd District where I received a petition from 16 residents and property owners to extend the pipes about 800 feet, agreeing to become subscribers. As the anticipated revenues fully justified my so doing, I made the extension and up to this date but one of the sixteen has complied with the agreement.

Water is considered so cheap an article, that by many persons it is deemed a hardship to be taxed for its use. It will require time in the education of people to the value of River Water, but I trust it is not far distant.

FIRE WELLS.

As a remedy against the former low presure in the mains,

Fire Wells have been placed at different points on our lines, varying in size of connections from 6 to 12 inches. This is a dangerous part of our system, as we lack a high service Reservoir, for the reckless opening of wells and fire hydrants might subject the engines to the loss of water Particularly is it so in the District from Julia to Canal street, and until this danger is remedied, I have instructed the engineer at the Pumping Station to open the valves of the Reservoir in the event of a fire in said District as a precaution against accidents. Were the fire hydrants alone used, the same head could be maintained.

If there could be any discretion exercised by the firemen in opening these wells to the width necessary to the required supply, the danger might be averted, but unfortunately 100 gallons are allowed to run to waste where 10 are pumped.

Complaint has twice been made of a lack of pressure and supply. Once on a street where the Company have no pipes, and another where the fire well had been only partially opened. One fact is overlooked by the Fire Department and that is in opening the fire wells and all the hydrants contiguous to a fire, the pressure is necessarily reduced and the Company cannot be held responsible, if the Department cuts off its own supply by a total disregard of results, by the useless waste as before cited.

PRIVATE SERVICES.

The additional pressure has developed a great many weak service pipes and the waste of water resulting from their bursting is no insignificant quantity. The plumbing was done at a time when people were satisfied to have the water flow at night sufficiently to fill a pail and therefore light weight pipe was considered all that was essential under the circumstances This evil is being gradually remedied and all of the city Plumbers have printed copies of the Regulations denoting the weight of pipe to be used in the future.

The number of private hydrants now open.....4,738
closed.....6,530

Total number of private services.....11,268
Making 215 more closed than at this same time last year.

REVENUES

The collections to date are far short of what I had anticipated they would be. There has been a combination of circumstances operating against us, the most powerful being the incessant rains since June last To this, more than any other, do I attribute the falling off from last year and notwithstanding that a more abundant and constant supply is furnished, and with a greater elevation than is needed for the highest houses, yet the consumption has decreased. It is a problem past explanation, but I dare say time may solve it.

On the 15th August, last, I sent the following circular to all parties having hydrants.

"The Company has ordered the water turned on (with your consent) from this date to Sept. 30th prox., FREE OF CHARGE, to give evidence of its ability to furnish a full supply of water during the day and night.

Should you desire its continuance, beyond that date, application must be made at this office, prior to October 1st."

As it rained nearly every day from the issuance of the circular, my scheme did not prove a success. I have left no stone unturned, by which the revenues of the Company might be increased and I sincerely trust that another year will find an improvement on the one just passed.

SEWERS.

I would have made no allusion to this subject, but for the fact that the ordinance now pending before the city council has evoked from its opponents certain comments upon this Company.

I can see no justification in raising the rates upon the subscribers of the Company, in making water connections to closets or sinks and have so expressed myself, and I feel assured that the Board will sustain me.

There are advantages as well as disadvantages in sewer connections. The greatest benefit to the Company will be the exemption of the fire hydrants for street cleaning purposes. All waste water, slops, etc., will go into the sewers instead of being washed and swept into the street gutters, leaving them dry, and not the filthy condition they are generally in under the present system. The waste through sewer connections will be difficult to discover, and will necessarily entail upon the Company a more rigid inspection.

The additional consumption of water and the introduction of new services, must eventually prove a source of revenue to the Company, and with the work now completed, two or three thousand more services could be opened without materially increasing the cost of operating.

Totals of pipes laid in the City of New Orleans, by the New Orleans Water Works Company,
to April 9th, 1881.

Size of Pipes Laid.	Length in Feet.	Length in Miles.
Forty-eight (48) inch pipes.....	72 00	.0136
Thirty-six (36) "	3437 80	.651
Thirty (30) " 11525 70		2 .1828
Twenty-four (24) "	367 00	.0695
Twenty (20) "	2387 00	.452
Twelve (12) "	3658 00	.6928
Eight (8) " 17187 00		3 .255
Six (6) " 16111 25		3 .0513
Four (4) "	8725 00	1 .6524
Totals..... .....63470 75		12 .0204

Size of Pipe.	Name of Street and Locality.	Length in feet.	Length in Miles
48 in.	Extention of Suction Main (large engine).....	72 00	.0136
	Total.....	72 00	.0136
36 in.	Extension of Suction Main (small engine).....	79 00	
36 in.	From Stand Pipe, out to Tchoupitoulas street.....	245 00	
"	Tchoupitoulas—from line stand pipe to Race...,.....	650 00	
"	Race—Tchoupitoulas to Camp...	2415 80	
"	East connection of stand pipe....	48 00	
	Total.....	3437 80	.651
30 in.	Connecting stand pipe with Richard street main.....	120 00	
"	Camp—Race to Canal	6755 30	
"	Chartres—Canal to Esplanade...	4650 40	
		11525 70	2 .1828
24 in.	Suction of Knowles' Pump.....	367 00	
		367 00	0695
20 in.	Force Main of Knowles' Pump..	321 00	
"	Poydras—Magazine to Rampart.	2066 00	
		2387 00	.452
12 in.	Jackson—Magazine to Prytania.	1458 00	
"	Julia—Near " to Rampart....	2152 00	
"	Orange—Intersection of Tchoupitoulas.....	48 00	
		3658 00	6928

Size of Pipe.	Name of Street and Locality.	Length in feet.	Length in Miles
8 in.	Perdido—Magnolia to Johnson..	1962 00	
"	St. Charles—First to Sixth.....	1694 50	
"	Liberty—Canal to Bienville.....	784 00	
"	Villere—Canal to Bienville.....	740 00	
"	St. Phillip—Peters to Chartres..	486 50	
"	" Bourbon to Derbigny..	3584 50	
"	Villere—St. Philip to Bayou Road	797 00	
"	Villere—St. Louis to near Toulouse	270 00	
"	St. Philip—Derbigny to Galvez..	1302 00	
"	Derbigny—St. Philip to St. Ann.	759 00	
"	Conti—Decatur to Rampart....	2273 00	
"	Calliope—Freret to Willow.....	1193 50	
"	Willow—Calliope to Clio.....	352 00	
"	Bourbon—Esplanade to Dauphine	539 00	
For various connections on different lines		450 00	
		17187 00	3 .255
6 in.	Philip, Magazine to Constance...	360 00	
"	Jackson, St. Charles to Baronne..	987 00	
"	Prytania, Felicity Road to Jackson.....	1318 00	
"	Prytania, Sixth to Toledano.....	1182 50	
"	Toledano, Prytania to Colliseum.	487 00	
"	Sixth, Prytania to St. Charles..	531 00	
"	St. Andrew, Magazine to St. Charles.....	2048 00	
"	Josephine, Prytania to St. Charles	528 00	
"	Treme, St. Philip to Dumaine....	381 00	
"	Robertson, St. Philip to Dumaine	401 25	
"	Customhouse, Decatur to Rampart	2280 50	
"	Tchoupitoulas, Celeste to St. Mary	977 00	
"	Euphrosine, Liberty to Freret....	695 50	
"	Freret, Euphrosine to Calliope..	339 50	
"	Front, Common, near Poydras..	401 00	

Size of Pipe	Name of Street and Locality.	Length in feet.	Length in Miles.
6 in.	Common, Villere to Claiborne..	684 00	
"	Claiborne, Common to Market, [fire plug].....	138 00	
"	Marais, Hospital to Esplanade..	519 00	
"	Kelerec, Rampart to St. Claude..	393 00	
"	Common, Carondelet near Baronne	232 00	
"	Drain of stand pipe.....	75 00	
"	Connections for Knowle's Pump..	200 00	
"	Connections for Sanitary Association, Tchoupitoulas and St. Mary streets.....	88 00	
"	For various connections on the different lines.....	865 00	
		16111 25	3 .0513
4 in.	St. Ann, Claiborne to Roman...	734 00	
"	Bayou Road, Derbigny to Rochblave.....	2498 00	
"	Lafayette, Franklin to Liberty..	322 00	
"	Lafayette, Baronne near Dryades	185 00	
"	Perillat, Liberty to Locust.....	739 00	
"	Freret, Perillat to Lafayette.....	161 00	
"	Connecting Fire Hydrant of Work House.....	152 00	
"	Frenchmen, Dauphine to Rampart	728 00	
"	Marigny, Dauphine to Chartres..	716 00	
"	Royal, Marigny near Elysian Fields.....	260 00	
"	Roman, Canal to Bienville.....	704 50	
"	Bienville, Roman to Galvez.....	841 50	
"	Bienville, Villere to Robertson...	185 00	
"	Conti, Villere to Robertson.....	249 00	
"	For various connections on the different lines.....	250 00	
		8725 00	1 .6524
	Total number of miles.....		15½

DISBURSEMENTS ACCOUNT, N. I.

Pipe, Valves, Hydrants and Specials	159,640 35
Pipe laying	62,169 32
Stand pipe	17,676 45
Reservoir	10,367 03
Suction, extension cribs, etc	5,605 29
Superintendence and general expenses	29,171 09
New stop cocks, extensions, etc	3,067 23
Filling batture square, etc	3,341 13
Substitution of lead for cement pipe	1,065 55
Inspection	2,485 76
Valve and Hydrant cases, etc	528 22
Engines, Boilers, etc	2,347 28
Engine houses	1,093 54
Dredging and flushing	505 00
Real estate	7,723 15
Knowles' Pump	12,000 00
Engine house and foundations	5,595 77
	$ 324,382 16

The system is now perfect, the elevation far beyond that required by the charter. The works are in good order and all the money expended that need be, until further extensions are demanded.

Bonds issued to date	$ 320,000 00
Balance due contractors	3,000 00
Estimate on reservoirs	6,500 00
Estimate on engine	6,000 00
	$ 335,500 00
Total issue of bonds, less new stock on hand and paid for	12,060 38
Total expense of improvements	$ 323,439 62

Respectfully submitted,

EDWARD TOBY,

President and Superintendent.

ENGINEER'S REPORT.

Water pumped from April 10th, 1880, to April 10th, 1881.

1880.	Gallons.	Hours.	Barrels Coal.	Galls Oil.	Pounds Tallow.
April	158,339 600	392	1515	42	105
May	242,017 900	568½	2589	62	55
June	260,497 200	575	2955	68½	67
July	303,403 320	688½	3652	80	192
August	309,665 430	726¼	3801	90½	216
September	304,229 150	675¼	3739	91	220
October	296,665 100	624½	3464	72½	192
November	271,205 900	620	3350	62	186
December	255,654 310	779½	2803	74	122
	Including Knowles.				
1881.					
January	270,497 000	762½	3114	62	186
	Including Knowles.				
February	199,932 200	473	2160	56	168
March	281,250 400	698	2666	70	190
	Including Knowles.				
April	112,381 400	263	810	19	44
	Including Knowles.				
	3,265,738 910	7,846	36,618	849½	1,943

STREET SERVICE REPORT.

Defective pipes replaced	16
New main stop cocks	3 3 inch.
	1 6 "
Leaks repaired on iron pipe	226
" " cement "	225
" " main stop cocks	176
" " service pipes	57
New screws in water gates	4-3 inch.
	6-4 "
	6-6 "
	7-8 "
	5-10 "
	1-12 "
	2-16 "
	2-18 "
	1-24 "
Fire Hydrants repaired	299
For Plumbers	13 excavations.
	27 taps.
Paving	3,295 yards Stone.
	1,535 " Brick.
	672 " Flagging.

MATERIALS USED.

Pipe..... 3 inch—34 feet. 4 inch—9 feet.
6 " 90 " 8 " 45 "
10 " 19 " ¾ lead, 42 "

Sleeves.....3 inch—1. 8 inch—5. 10 inch—2.
4 " —3. 6 " —9.

Specials.....3 inch saddle, 1. 3 inch ¼ bend, 1.
3x3 T, 1. 3x4 T, 2.
4 inch ¼ bend, 2. 4 inch Goose neck, 1.

Iron frames and covers.....16
Wooden frames and cases.....37
Wooden Hydrant cases.....41
Pig Lead.....626 lbs.
Sheet " .....199 "
White Lead.....275 "
Red " .....225 "
Tarred Marlin.....277 "
Portland Cement.....18 bbls.
Boiled Oil.....7 galls.
Rubber Cloth.....60 yards.
Cotton " .....80 "
Gum Valves.....92
Iron Screws.....129
Stirrups and nuts.....126
Cast iron valves.....29
Valve seats and tops for Holly Hydrant.....15
Cast iron cases.....5
Brass nuts.....13
" nozzle.....1
¾ inch bolts.....43
⅝ " " 129
½ " " 50
¾ " washers.....100 lbs.
Packing box caps.....15
" " bolts and nuts.....418
Iron rods.....55
Copper rods.....8

INVENTORY OF NEW STOCK OF PIPES AND SPECIALS, AT PIPE YARD OF NEW ORLEANS WATER WORKS CO., APRIL 9th, 1881.

Name of Casting.	Weight in Tons.	Price per Ton.	AMOUNT.
Pipes	184.350	$ 36 00	$ 6,636 60
Sleeves	3.126	60 00	187 56
Bevel Hubs	.176	"	10 56
Reducers	1.247	"	74 82
Four Way Branches	9.721	"	583 26
Three " "	8.308	"	498 48
One eighth Bends	.264	"	15 84
One-quarter Bends	.676	"	40 56
Plugs	.588	"	35 28
Frames and Covers	.25	110 00	27 50
Collars (Band)	.08	120 00	9 60
Matthew's Hydrants			165 00
Water Valves			1,115 46
Bolts Wrought Iron	.155	120 00	18 60
Cases for Hydrants			90 00
Valve Boxes			92 00
Total Value			$ 9,601 12
Bricks, Slates and Lumber			800 00
			$10,401 12
Value of Stock at Work Shop			1,659 26
Total			$12,060 38

Name of Casting.	Size of Casting	Ave. Wgt.	No.	WEIGHT Lbs.	WEIGHT Tons	Price per Ton	Amt.
Pipes	36 in.	6100	4	24400	12.2	$36 00	
"	30 in.	4260	1¾	7100	3.55	"	
"	24 in.	3256	2½	8140	4.07	"	
"	20 in.	2371	4⅔	11064	5.532	"	
"	18 in.	1605	2	3210	1.605	"	
"	12 in.	1058	129½	136834	68.417	"	
"	10 in.	807	5½	4438	2.219	"	
"	8 in.	608	128	77824	38.912	"	
"	6 in.	430	209	89870	44.935	"	
"	4 in.	291	20	5820	2.91	"	
				368700	184.350	$36 00	

SPECIALS.

Sleeves	36 in.	1154	2	2308	1.154	$60 00	
"	18 in.	436	2	872	.436	"	
"	16 in.	340	3	1020	.51	"	
"	12 in.	175	1	175	.087	"	
"	10 in.	148	11	1298	.649	"	
"	6 in.	89	4	356	.178	"	
"	4 in.	35	5	175	.087	"	
"	3 in.	25	2	50	.025	"	
				6254	3.126	$60 00	
Bevel Hubs	12 in.	353	1	353	.176	$60 00	
				353	.176	$60 00	

Name of Casting	Size of Casting	Ave. Wgt.	No.	WEIGHT Lbs.	WEIGHT Tons	Price per Ton	Amt.
Reducers	20 to 12 in.	654	1	654	.327	$60 00	
"	12 to 8 in.	260	2	520	.26	"	
"	12 to 6 in.	270	1	270	.135	"	
"	12 to 4 in.	229	1	229	.114	"	
"	8 to 6 in.	153	1	153	.076	"	
"	8 to 4 in.	118	2	236	118	"	
"	8 to 3 in.	115	2	230	.115	"	
"	6 to 4 in.	105	1	105	.052	"	
"	6 to 3 in	100	1	100	.05	"	
				2497	1.247	$60 00	
Four Way Branches	30x 8 in.	2560	1	2560	1.28	$60 00	
" "	20x10 in.	1476	1	1476	.738	"	
" "	20x 8 in.	1282	1	1282	.641	"	
" "	16x12 in.	1034	1	1034	.517	"	
" "	16x 8 in.	782	5	3910	1.955	"	
" "	16x 6 in.	705	2	1410	.795	"	
" "	12x 8 in.	548	3	1644	.822	"	
" "	12x 6 in.	486	4	1944	.972	"	
" "	10x 6 in.	394	1	394	.197	"	
" "	8x 6 in.	373	9	2957	1.478	"	
" "	8x 4 in.	285	1	285	.142	"	
" "	6x 6 in.	321	1	321	.16	"	
" "	6x 4 in.	229	1	229	.114	"	
				19446	9.721	$60 00	

Name of Casting.	Size of Casting.	Avge. Wgt.	Num.	WEIGHT Lbs.	WEIGHT Tons.	Price pr. ton	Amt.
Three Way Branches.....	36x8x36 in.	4122	2	8244	4.122	$60	
" "	12x6x12 in.	428	1	428	.214	"	
" "	8x6x8 in.	246	21	5166	2.583	"	
" "	6x6x6 in.	235	9	2115	1.057	"	
" "	6x4x6 in.	189	3	567	.283	"	
" "	4x4x4 in.	99	1	99	.049	"	
				16619	8.308	$60	
One eighth Bends.....	8 in.	146	2	292	.146	"	
" "	6 in.	98	1	98	.949	"	
" "	4 in.	69	2	138	.069	"	
				528	.264	$60	
One quarter Bends.....	8 in.	182	4	728	.364	"	
" "	6 in.	104	6	624	.312	"	
				1352	.676	$60	
Plugs.....	30 in.	409	1	409	.204	"	
"	20 in.	272	2	544	.272	"	
"	8 in.	15	12	180	.09	"	
"	6 in.	10	2	20	.01	"	
"	4 in.	8	3	24	.012	"	
				1177	.588	$60	
Frames and Covers.....		100	5	500	.25	$110	
				500	.25	$110	

Name of Casting.	Size of Casting.	Avge. Wgt	Num.	WEIGHT Lbs.	WEIGHT Tons.	Price per Ton.	Amount.
Collar Band.....	30 in.	160	1	160	.08	$ 120 00	$ 9 60
				160	.08	$ 120 00	$ 9 60
						(each)	
Matthew's Hydrauts.			5			$33 00	$ 165 00
						$ 33 00	$ 165 00
						(each)	
Water Valves.....	20 in.		1			$178 50	$ 178 50
"	16 in.		3			83 00	249 00
"	12 in.		1			90 00	90 00
"	10 in.		2			66 00	132 00
"	8 in.		5			48 50	242 50
"	6 in.		6			33 00	198 00
"	4 in.		2			12 73	25 46
							$1115 46
Bolts (wrought iron).	2 ft. x 1¼ in.	9.14	34	310	.155	120 00	18 60
				310	.155	120 00	18 60
						(each)	
Cases for Hydrants complete..			18			$ 5 00	$ 90 00
							$ 90 00
						(each)	
Valve boxes (cypress, large).....			14			$ 3 00	$ 42 00
" " small.....			25			2 00	50 00
							$ 92 00

LOCATION OF FIRE WELLS AND BLOW-OFFS.

Showing the number and location of Fire Wells and Blow-offs.

FIRE WELLS:

No. 1.	Corner of	St. Charles and Commercial Alley.
2.	"	Gravier and Magazine streets.
3.	"	Magazine and Lafayette streets.
4.	"	Poydras and Front streets.
5.	"	Tchoupitoulas and Delord streets.
6.	"	Annunciation and St. Thomas streets.
7.	"	Hunter and Tchoupitoulas streets.
8.	"	Terpsichore and Peters streets.
9.	"	Robin and Peters streets.
10.	"	Tchoupitoulas and Religious streets.
11.	"	Annunciation and Robin streets.
12.	"	Annunciation and Richard streets.
13.	"	St. Mary and Magazine streets.
14.	"	Carondelet and Poydras streets.
15.	"	Common and Liberty streets.
16.	"	Canal and Camp streets.
17.	"	Canal and Rampart streets.
18.	"	Canal and Tchoupitoulas streets.
19.	"	Felicity Road and Rampart streets.
20.	"	Felicity Road and Howard streets.
21.	"	Julia and Camp streets.
22.	"	Customhouse and Bourbon streets.
23.	"	Bienville and Decatur streets.
24.	"	Toulouse and Decatur streets.
25.	"	St. Bernard and St. Claude streets.
26.	"	St. Bernard and Claiborne streets.
27.	"	Dauphine and Clouet streets.
28.	"	Esplanade and Treme streets.
29.	"	Dauphine and Enghein streets.
30.	"	Hospital and Decatur streets.
31.	"	Elysian Fields and Moreau streets.
32.	"	Euterpe and Dryades streets.
33.	"	Bagatelle and Rampart streets.

34. Intersection of Frenchman and Esplanade's treets.
35. Corner of Common and Front streets.
36. " Gravier and Front streets.
37. " Girod and Front streets.
38. " Julia and Front streets.
39. " Canal and Claiborne streets

No. 40. Corner of Chartres and St. Louis streets.
41. " Josephine and Magazine streets.
42. " Jackson and Magazine streets
43. " Washington and Magazine streets.
44. " St. Charles and St. Andrew streets.
45. " Washington Avenue and Market street.
46. Mandeville, between Love and Goodchildren sts.
47. Corner of Congress and Craps streets
48. " Enghein and Goodchildren streets.

BLOW-OFFS.

No. 1. Corner of Race and Peters streets.
2. " Rampart and Julia streets.
3. " Gasquet and Galvez streets.
4. " Tchoupitoulas and Girod streets.
5. Keller Market.
6. Victory, near Marigny street.
7. Victory, near Enghein street.
8. Corner of Laharpe and Johnson streets.
9. " Press and Peters streets.
10. " Dauphine and Piety streets.
11. " Tonti and Esplanade streets.
12. " St. Peter and Marais streets.
13. " Esplanade and Broad streets.
14. " Clio and Camp streets.
15. " Canal and Chartres streets.
16. " Chartres and St Philip streets.
17. " Race and Camp streets.

SEE

SECRETARY'S REPORT,

NEXT PAGE.

Cash Receipts for year ending April 9th, 1881.

To water rates—	
Received for water rates	$ 83,421 16
To Bonds—	
Received for 275 Bonds of $500 each	137,500 00
To interest—	
Received for premium on bonds	8,087 57
To materials and fixtures—	
Received for materials and fixtures sold	535 67
To pumping service—	
Received for old meters, and old lead and iron pipes	2,626 20
To bills receivable—	
Received for bills receivable	1,000 00
To street service repairs—	
Received from Plumbers for extra work and taps	266 60
To cash on hand April 9th. 1880	65,461 19
	$298,898 39

Cash Expenditures for year ending April 9th, 1881.

By new improvements—	
Paid for iron pipe, pipe laying, etc.....	$ 134,183 69
By pumping service—	
Paid for coal consumed, engineers, laborers, etc.	24,184 01
By street service, repairs—	
Paid for materials and wages.....	3,648 01
By hydrant service—	
Paid for salaries and wages.....	5,479 00
By office salaries and expenses—	
Paid for salaries, rent, stationery, taxes, etc	16,622 78
By material and fixtures—	
Paid for materials and fixtures.....	724 28
By interest account—	
Paid interest coupons due April 1st, 1881, etc...	7,150 03
By coal account—	
Paid coal on hand.....	1,718 99
By Attorney's fees—	
Paid Attorney's fees.....	1,003 56
By Knowles & Co., paid for their account	14 40
By dividends—	
Paid for dividends Nos. 1 and 2.....	49,997 55
By Carey Robert, paid for his account.....	1,556 70
By Cash on hand April 9th, 1881.....	52,615 39
	$298,898 39

The above statement is a just, true and correct transcript from the books of the Company.

EDWARD TOBY, President.

ALEX. BONNEVAL, Secretary.

STATE OF LOUISIANA, PARISH OF ORLEANS, }
City of New Orleans. }

Sworn to and subscribed before me, the twenty-third day of April, A. D., 1881.

JAMES FAHEY, Notary Public.

Assets N. O Water Works Company

Invested capital, purchase of works	$2,000,000 00
Invested capital, new improvements	324,382 16
Materials and fixtures, materials on hand	1,493 54
Amount deposited in N. O. Gaslight Company	10 00
Coal account, coal on hand	1,718 90
Knowles & Co	14 40
Cash on hand	52,615 39
	$2,380,234 48

Liabilities N. O. Water Works Company:

Capital stock	$2,000,000 00
Bonds	320,000 00
Dividends unpaid	4,772 45
Interest account, to pay coupons due April 1, 1881	937 54
Mac Ritchie & Nichol, Contractors	3,404 74
Robert Carey, Paver	434 30
Profit and loss	50,685 45
	$2,380,234 48

New Orleans, *April 9th*, 1881.

The above statement is a just, true and correct transcript from the books of the Company.

EDWARD TOBY, President.

ALEX. BONNEVAL, Secretary.

STATE OF LOUISIANA, PARISH OF ORLEANS, }
City of New Orleans. }

Sworn to and subscribed before me, the twenty-third day of April, A. D., 1881.

JAMES FAHEY, Notary Public.

OFFICE OF NEW ORLEANS WATER WORKS COMPANY,
NEW ORLEANS, April 21st, 1881.

At a meeting of the Board of Directors, held this day, a dividend of two dollars per share was declared, payable to the stockholders on Monday, May 2nd, 1881.

ALEX. BONNEVAL, Secretary.

4168

ANNUAL REPORT

—OF THE—

NEW ORLEANS

WATER WORKS COMPANY,

—TO THE—

BOARD OF DIRECTORS.

APRIL 10TH, 1882.

NEW ORLEANS:
A. W. HYATT STATIONER AND PRINTER, 73 CAMP STREET.—2296
1882

OFFICE OF THE NEW ORLEANS WATER WORKS CO.
NEW ORLEANS, April 10th, 1882.

Honorable Board of Directors:

GENTLEMEN—In compliance with section 15 of the Charter. I now submit my fourth annual report of the work accomplished by the Company, and of its financial condition for the year ending April 9th, 1882.

Since my last report the two basins of the reservoir have been completed, and new valves and platforms put in all four. I deemed it best to cut off the eighteen inch supply from Richard street, as it was useless, and have capped the ends leading into the basin, corner Market and St. Thomas and Market and Religious streets. Although very careful in introducing water into the newly rebuilt basins, I had occasion to run it off several times to examine leaks in the flooring. There is yet one small leak which I have not discovered, but it is of a trifling nature, and not sufficient to cause me any uneasiness.

The waste that has been checked by these repairs and improvements will not fall short of 600 000 gallons per day.

As an evidence of the many leaks that have been closed and the waste that has been checked, I cite the number of gallons pumped this year over last:

As per report April 9, 1881	3,265,738,910
" " " 1882	2,948,347,134
Less in 1882	317,391,776
Coal consumed, 1881, barrels	36,618
" 1882 "	30,743
	5,875

Had the average price of coal purchased in 1882 been as low as that purchased in 1881, the pumping service account would have been reduced.

The check valve on the thirty-six inch force main should be repaired, as I am satisfied that it has never been examined since it was put in. I have made one attempt at it, but was compelled to abandon it until such time as all the engines were in perfect order and the stage of the river low enough to warrant my so doing.

When the river receded last summer, a sand-bar was disclosed to within fifteen feet of the cribs, so, notwithstanding the extension of both suction mains, the constant accretions will necessitate further extensions, unless the city establishes a harbor line on the river front from Erato to Market streets.

I was notified by the wharf lessee that he proposed filling in the wharf at Market street, which compelled me to extend the sixteen inch waste pipe from the reservoir sixty-three feet to the river.

The Richard Street Ferry is a great disadvantage to the Company, and I have several times complained of it, as there is some risk attending its location so near to the cribs; but the only compromise that I could make with the lessee was his proposition to move if I would pay $7000 or $8000, which he claimed it would cost to build another wharf and pontoons. I did not enter into negotiations with him on any such basis, and therefore the ferry landing still remains to the prejudice of the Company.

Another grievance is the extension of the wharf below the cribs, and its reservation for a line of steamers, that, when moored there, lap both the thirty-six and twenty-four inch suction mains. The remedy for this is either to further extend the mains or to drive eight or ten piles out in a line with the twenty-four inch suction crib.

The repairs to the small engine were completed June 18th, at a cost of $6889 78, and it has been in service every day since, doing excellent duty.

The Knowles pump is now being thoroughly overhauled. I have increased the size of the plunger to twenty-eight inches diameter, which will add to her capacity about 600,000 gallons, and make her work more satisfactorily under our average head of fifty to sixty feet.

The large engine does not work to my satisfaction, and I have never been in the position to risk taking it out of service to fully repair it, but I think that when the Knowles is finished it can be done with safety.

MAINS.

The thirty inch main on Delta, between Calliope and Canal streets, was not laid sufficiently deep to insure it against the heavy traffic on that street and the railroad tracks that cross it. The constant leaks necessitated the moving of the Chicago, St. Louis and New Orleans Railroad tracks, since which time I have had no complaints.

I have replaced one 10 inch pipe, one 8 inch, two 6 inch and five 4 inch. They were imperfect and cracked. Even under a low pressure they are sometimes disclosed, and they are immediately replaced by new lengths, and are not patched or tied as has been the custom in days past.

PIPE LAID SINCE LAST REPORT.

PRYTANIA STREET—

From Toledano to Louisiana Avenue, 6 inch..... 369½ feet.

LOUISIANA AVENUE—.

From Prytania toward St. Charles, 6 inch..... 260 "

From Prytania, toward Coliseum, 6 inch. .. .. 443 "

THIRD STREET—

From near Prytania to Chestnut, 4 inch..... ..... 491 "

CHESTNUT STREET—

From Third to near Second, 4 inch..... 254 "

THALIA STREET—

From Front across to Terpsichore, 4 inch..... 1232 feet.

CAMP STREET—

From Felicity to near Race, 4 inch..... 315 "

MARKET STREET—

From Water to River, 16 inch..... 62 "

RACE STREET—

From Religious to Chippewa, 1½ inch L..... 622 "

CONSUMPTION AND WASTE.

The average number of gallons pumped since last report is 8,077,663 gallons per day of twenty-four hours, and the consumption is the smallest part of it. The waste includes that which is run off from the fire hydrants for street-cleaning purposes. It is the constant recurring complaint of nearly all cities in the United States, and what must it be in a climate like ours, with seven months of summer weather.

There is but one protection against waste, and that is in the use of meters; but, unfortunately, the character of our water, as we pump it, will not permit of their successful operation. In some cities the per capita has been reduced to twenty-five gallons by the introduction of meters. As a comparison of per capita consumption, I cite the following cities:

New York	90	Cincinnati	55
Philadelphia	67	Chicago	123
Baltimore	50	St. Louis	44
Boston	98	Louisville	28
Toledo	54	Milwaukee	125
New Orleans	37		

We figure far below the average, but the computation should not be per capita, for the reason that of twenty thousand houses in this city, only five thousand have hydrants in use, and out of this five thousand, certainly more than one-half of them

are provided with cisterns for storage of rain-water. The quantity computed, according to service, would be one thousand six hundred and fifteen gallons.

Since my induction to this office, I have made constant war upon the criminal waste of water by this community. The fact that fire-hydrants are opened and used for scavenger purposes, places a cheap value on the water, and encourages individuals to use their private services for the same purpose. Moreover, the fact of the Mississippi River flowing past our doors, and sometimes overflowing into the streets, creates the impression among many that there is little or no expense attending its delivery through the pipes. Yet, notwithstanding all that I have had to contend with, I can congratulate the Company upon having accomplished a saving of three hundred and seventeen million gallons and not decreased its revenues.

CLEAR WATER.

This subject has attracted the attention of others as well as myself, and I have been in communication with several parties relative thereto—some with devices to draw the sediment from the suction before reaching the pumps—some with estimates on subsidence and filtration, and others on the introduction by gravitation from a remote point.

I have examined the subject closely, and as I have now only to deal with the Mississippi River water, I cannot recommend any system that would be of advantage to the Company.

In illustration of cost of subsidence and filtration I quote the following paper, read before the Society of Boston Engineers, September 21st, 1881:

"No filtering works of great importance exist in this country, but it is obvious that the outlay necessary to build such works, in connection with the water supply of a large city, would be very large. The writer had occasion to make an esti-

mate of the cost of filtering the water of Mystic Lake, on the basis of a consumption of ten millions gallons per day, and it was found that the cost of the plan, with the advantage of having all the filtering material on the ground, would amount to nearly half a million of dollars: the cost of yearly maintenance, including pumping, was estimated at $30,000. The area of the filter beds was calculated for the rate of fifty gallons per square foot per twenty-four hours."

Mr. Hermany, of Louisville, estimated on a consumption of fifteen millions, at $1,265,000. Any estimate for this city should be on a basis of thirty millions, and as I stated in my former report, I hoped some means would be discovered of filtering at the inlets, and until then it will be much cheaper for the Company to filter at the point of delivery.

An attempt to deliver clear water from the Mississippi River cannot be made with subsidence alone, and it is a question of expense for filter beds also, that must be considered by the Company.

FILTERS.

A great many different patents have been submitted to me, but I have not yet found one that will fill the purpose. Those that I have seen are unquestionably good, and will accomplish that for which they are made, but it is my desire to secure one that can be constructed so economically as to place it within the reach of every householder.

The most important and fundamental requirements of a household filter is of a material which cannot communicate any injurious or offensive quality to the water which passes through it. Porous stone, vegetable and animal charcoal and sand, are the safest substances that can be used.

The type of good drinking water in this city is that which is caught by water sheds from rains. It is held in high estima-

tion on the theory of its pure source; but the organic dust and organic germs that float in the currents of the atmosphere, together with all fetid gases, smoke, etc., are washed into storage cisterns.

Dr. Joseph Jones, in his able report of 1881, says:

"That in the year 1870 samples of the waters of the Mississippi were submitted to him for chemical and microscopical analysis, and from his examination he concludes that when freed from suspended matters they are of great purity, and will compare favorably with the drinking water supplied to the largest and best regulated cities in the world."

Therefore, an economical filter would not only be of great advantage, in a sanitary point of view, but would be to the interest of the Company to secure one.

PRIVATE SERVICE.

Total number in First and Fourth Districts	6,072
Total number in Second and Third Districts	5,163
	11,235
New service, 86; destroyed, 119.	
Number open, First and Fourth Districts	2,146
Number open, Second and Third Districts	2,825
Number closed, First and Fourth Districts	3,926
Number closed, Second and Third Districts	2,338
	11,235

Making two hundred and thirty-three more open than at the same time last year, all of which are yearly. As will be seen, more than one-half of the services are closed, and a much larger proportion in the First and Fourth Districts.

There are many considerations that have produced this result. When consumers were taxed for water which they did not receive, they abandoned their hydrants and provided them-

selves with cisterns. Certain portions of the city that were thickly populated, near the river front, have been converted into presses, warehouses, etc., and with cheaper rents in the rear portions, together with street railroad communication, have withdrawn to the suburbs a large number that were once customers of this Company; then the impecuneous condition of our people since the war, and their gradual impoverishment for years under heavy taxation compelled many of them to deny themselves the luxury of an abundant water supply, and stinted themselves with what they could catch from sheds.

I have used every effort to induce parties to take the water, by solicitation and appeals, and even by giving it free for a stated period, and although my success is only partial, it is encouraging, and I feel satisfied that it will be permanent.

CITY TAXES.

An erroneous impression has been created in the minds of many stockholders that the Company was claiming an exemption to which they were not entitled, and we were asking as a favor that which we claimed as a right.

Tax suits have been instituted for the years 1879, 1880 and 1881, and in each case I have filed a claim in reconvention for $40,000.

The contract with the city is under section 11 of the Charter, which I quote:

"*Be it further enacted, etc.*, That the city of New Orleans shall be allowed to use water from the pipes of said Company now laid, or hereafter to be laid, free of any charge, for the extinguishment of fires, cleansing of the streets, and for the use of all public buildings, public markets and charitable institutions, etc.; an in consideration thereof, the franchise and property of said New Orleans Water Works Company, used in accordance with this act, shall be exempt from taxation, municipal and parochial."

The language and intent is beyond controversy, and the question reduces itself to this one point: If the Company is not exempt from taxation, the city is not entitled to free water. I cannot see how this contract can be impaired, but if it is, we certainly have the right to charge for the water. The matter is now before the courts for determination and I believe the annulment of the contract would be more advantageous to the Company.

As an evidence of the liberality on the part of the framers of the Charter, I give you the list of public buildings, etc., supplied *free*, and the moiety of compensation to the Company is exemption from city taxation.

PUBLIC BUILDINGS AND CHARITABLE INSTITUTIONS SUPPLIED WITH WATER "FREE OF CHARGE."

First and Fourth Districts—

14 Engine and Hook and Ladder houses.
7 Asylums.
2 Police Stations.
10 Public Schools.
6 Markets.
City Hall.
Work House.
House of Refuge.
Charity Hospital.

Second and Third Districts—

8 Engine houses.
7 Markets.
8 Asylums.
4 Public Schools.
Parish Prison.
2 Police Stations.
2 Court Buildings.

I now quote from report of S. W. Scott, Superintendent, under city administration, for year 1876:

VALUATION OF WATER FURNISHED FREE TO THE CITY.

Public Schools	$ 1,500 00
Asylums and Charitable Institutions	1,000 00
City Hall	500 00
City Pounds	250 00
Recorders' and Criminal Courts	100 00
Police Stations	1,000 00
Charity Hospital	1,500 00
Public Hydrants	1,250 00
Workhouse	50 00
Parish Prison	1,000 00
Court Buildings	250 00
Engine and Truck Houses	1,500 00
Extinguishing fires, flushing gutters, watering streets, one-third of all pumped, 806,863,748 gallons, at 10 cents per 1000	80,686 37
	$90, 586 37

Although this estimate was made by a city official, I considered it excessive, and in my reconventional demand claimed only $40,000, which I can establish as a low valuation beyond any question or doubt.

REVENUES AND EXPENDITURES.

I submit a comparative table of water rents collected since the organization of the Water Works:

Jany.	1837	$ 8,816 46	Jany.	1846	$ 62,866 38
	1838	17,027 29		1847	70,685 94
	1839	27,938 89		1848	70,342 05
	1840	34,622 88		1849	70,562 84
	1841	44,927 01		1850	89,819 83
	1842	49,944 08		1851	93,251 66
	1843	49,796 07		1852	101,989 72
	1844	56,687 18		1853	110,002 41
	1845	58,263 11		1854	111,555 76

Jany.	1855	$115,935	39	Jany.	1869	$143,293	00
	1856	122,406	75	Oct.	1870-71	145,926	93
	1857	126,099	05		1872	132,626	82
	1858	128,803	67		1873	125,904	17
	1859	135,318	78		1874	113,146	61
	1860	145,661	91		1875	100,742	01
	1861	145,643	63		1876	90,015	67
	1862	126,278	65		1877	90,148	62
	1863	99,365	55	Apl.	1878-79	91,467	92
	1864	113,679	15		City	8,250	00
	1865	132,233	55		1879-80	91,339	03
	1866	165,939	90		1880-81	83,421	16
	1867	181,280	58		1881-82	99,930	70
	1868	155,023	75				

This year shows an increase of twenty per cent. over 1881, and nearly ten per cent. average since 1876. When it is taken into consideration that the Water Works of this city have been on the rapid down grade since 1867, the difficulty of checking it must not be forgotten.

The sanguine expectations of some may have not been realized, but the result proves the benefit of the work done, and leads to the hope for a continued increase in the future.

CONSTRUCTION ACCOUNT.

Paid for	pipe, gates, hydrants, etc	$ 6,282	00
"	Reservoir	12,030	76
"	McRitchie & Nichol balance	3,000	00
"	Repairing	1,309	00
"	Old engine	6,889	78
"	Inspection and plans	165	00
"	Filling batture square	311	40
"	Account Knowles Pump	265	77
"	S. C. & Co. cases	320	53
		$30,574	24

Cr.

Of Touro Infirmary	$349 86	
" J. Goodwyn	572 90	
" M. J. Hart	159 64	
" Am. R. Imp. Co	877 18	
" Sale of pipe	210 30	
" " slates	175 00	
" " brick, etc	108 30	
		2,453 18
Total since last report		$28,121 06
Bonds issued to date		$350,000 00
Less amount Debtor to N. I. Account		2,503 22
		$352,503 22
Stock in shop	$1,428 50	
" yard	8,243 08	
		9,701 58
Total expenses to date		$342,801 64

I have nearly completed a correct map of the distribution, showing location of hydrants and stop cocks, and also all connections. As I had little or no data to work upon, I have succeeded in making as perfect a map as possible. I believe it to be entirely correct, and will be of valuable service to this office.

MAINTENANCE.

Pumping service	$23,719 62
Street "	3,809 95
Hydrant "	5,738 20
Office "	11,136 45
	$44,504 22

The excess of State taxes this year over last is $1342 23. *The State tax of 1879, in litigation, through error of the Assessment* Bureau in making a duplicate assessment of capital and real estate, was paid this year, without costs or penalties, say, $2915.

In conclusion, I desire to say that I have reduced the expenses and cost of operating the works to the minimum figure, and cannot see where I can curtail them any more; and, as I have before stated to the Board that as my salary was fixed by you, it is within your province to reduce it, if you see proper to do so.

Respectfully submitted,

EDWARD TOBY,

President and Superintendent.

INVENTORY OF NEW STOCK IN YARD.

Name of Casting	Size of Casting	Ave. Wgt. lbs.	No.	WEIGHT lbs.	WEIGHT tons	Price per ton	Amt.
Pipes	36 in.	9100	4	24400	12.2	$ 36 00	
"	30 in.	4260	1⅔	7100	3.55	"	
"	24 in.	3256	2½	8140	4.07	"	
"	20 in.	2371	3⅔	8678	4.339	"	
"	18 in.	1605	2	3210	1.605	"	
"	12 in.	1058	124½	131541	65.770	"	
"	10 in.	807	5½	4438	2.219	"	
"	8 in.	608	125	76000	38.000	"	
"	6 in.	430	94⅔	40703	20.351	"	
"	4 in.	291	10	2910	1.455	"	
				307120	153.559	$ 36 00	$5,528 12
		SPECIAL.					
Sleeves	36 in.	1154	2	2308	1.154	$ 60 00	
"	18 in.	436	2	872	.436	"	
"	16 in.	340	3	1020	.51	"	
"	12 in.	175	1	175	.087	"	
"	10 in.	118	14	1652	.826	"	
"	8 in.	115	5	575	.287	"	
"	6 in.	89	12	1068	.534	"	
"	3 in.	25	2	50	.025	"	
				7720	3.859	$ 60 00	$ 231 54
Bevel Hubs	12 in.	353	1	353	.176	$ 60 00	$ 10 56
				353	.176	$ 60 00	$ 10 56
Saddles	4 in.	70	1	70	.035	$110 00	$ 3 85
Reducers	20 to 12	654	1	654	.327	$ 60 00	
"	12 to 8	260	2	520	.26	"	
"	12 to 6	270	1	270	.135	"	
"	12 to 4	229	1	229	.114	"	
"	8 to 6	153	1	153	.076	"	
"	8 to 4	118	2	236	.118	"	
"	8 to 3	115	2	230	.115	"	
				2292	1.145	$ 60 00	$ 68 70

4103

Name of Casting	Size of Casting	Ave. Wgt. lbs.	No.	WEIGHT lbs.	WEIGHT tons	Price per ton	Amt.
Four Way							
Branches	30x 8	2560	1	2560	1.28	$ 60 00	
"	20x10	1476	1	1476	.738	"	
"	20x 8	1282	1	1282	.641	"	
"	16x12	1034	1	1034	.517	"	
"	16x 8	782	5	3910	1.955	"	
"	16x 6	705	2	1410	.705	"	
"	12x 8	548	3	1644	.822	"	
"	12x 6	486	4	1944	.972	"	
"	10x 6	394	1	394	.197	"	
"	8x 6	373	9	2957	1.478	"	
"	8x 4	285	1	285	.142	"	
"	6x 4	229	1	229	.114	"	
				19125	9.561	$ 60 00	$ 573 66
Three Way							
Branches	36x8x36	4122	2	8244	4.122	$ 60 00	
"	12x6x12	428	1	428	.214	"	
"	8x6x 8	246	20	4920	2.46	"	
"	6x6x 6	235	11	2585	1.292	"	
"	6x4x 6	189	3	567	.283	"	
"	4x3x 4	86	1	86	.043	"	
				16830	8.414	$ 60 00	$ 504 84
One-quarter Bends..	8 in.	182	4	728	.364	$ 60 00	
"	6 in.	104	5	520	.26	"	
"	3 in.	30	1	30	.015	"	
				1278	.639	$ 60 00	$ 38 34
One-eighth Bends..	8 in.	146	2	292	.146	$ 60 00	
"	6 in.	98	1	98	.049	"	
				390	.195	$ 60 00	$ 11 70
Plugs	30 in.	409	1	409	.204	$ 60 00	
"	18 in.	240	1	240	.12	"	
"	8 in.	15	12	180	.09	"	
				829	.414	$ 60 00	$ 24 84

Name of Casting	Size of Casting	Ave. Wgt. lbs.	No.	WEIGHT lbs.	WEIGHT tons	Price per ton	Amt.
Frames and Covers..		100	5	500	.25	$110 00	$ 27 50
				500	.25	$110 00	$ 27 50
Collar Band.....	30 in.	160	1	160	.08	$120 00	$ 9 60
				160	.08	$120 00	$ 9 60
Matthews' Hydrants.			5			(each) $ 37 00	$ 185 00
			5			$ 37 00	$ 185 00
						(each)	
Valves	20 in.		1			$178 50	$ 178 50
"	12 in.		1			90 00	90 00
"	10 in.		2			66 00	132 00
"	8 in.		5			48 50	242 50
"	6 in.		4			33 00	132 00
"	4 in.		1			12 73	12 73
							$ 787 73
Bolts (wro't iron)	2x1¼	915	34	310	.155	$120 00	$ 18 60
Cases for Hyd'ts, complete ...			10			(each) $ 5 00	$ 50 00
incomplete			5			4 50	22 50
							$ 72 50
Valve Boxes (cypress, large)			15			$ 3 00	$ 45 00
" small			24			2 00	48 00
Valve Frames (cypress)			10			50	5 00
							$ 98 00
Fire Well	20 in.	1100	1	1100	.55	$ 60 00	$ 33 00
				1100	.55	$ 60 00	$ 33 00
Derrick			1			$ 25 00	$ 25 00
							$ 25 00
Iron Scrap.						$ 20 00	$ 20 00

INVENTORY OF NEW STOCK IN SHOP.

12	3 inch S. C. screws	@ $ 6 00	$	72 00
12	4 " "	6 50		78 00
8	6 " "	7 00		56 00
11	8 " "	7 50		82 50
9	10 " "	10 00		90 00
8	12 " "	10 50		84 00
6	16 " "	11 50		69 00
6	18 " "	12 00		72 00
1	24 " "			35 00
2	4 " brass S. C. Screws	5 00		10 00
2	8 " " "	6 00		12 00
5	6 " " "	5 50		27 50
5	8 " " "	6 00		30 00
20	W. I. packing box bolts and nuts	75		15 00
2	C. I. frames and covers			9 00
1	M. C. for main S. C			3 50
3	W. frames for main S. C	50		1 50
10	C. I. ferrules for Holly hydrants	25		2 50
20	C. I. valve seats	5 00		100 00
19	C. I. valves with screws, brass covered	6 00		114 00
7	½ inch U. I. bolts	10		70
78	Gum valves	1 25		97 50
28	Iron rods	50		14 00
8	Iron screws, without clamps	3 00		24 00
5	Iron screws, with clamps	6 00		30 00
27	Iron stirrups and nuts	75		20 25
2	W. C., with hinges	5 00		10 00
1	W. C. for flush hydrant			75
21	C. I. top nuts for Matthews H	1 00		21 00
20	Gum valves	1 25		25 00
75	½ inch bolts and nuts	10		7 50

INVENTORY OF NEW STOCK IN SHOP—Continued.

2½ barrels cement	@ $ 1 25	$	2 80
149 pounds sheet lead	8		11 92
28 pounds pack yarn	15		4 20
20 pounds tarred marlin	15		3 00
65 pounds white lead	6½		4 33
3½ yards rubber cloth	1 00		3 50
13 yards cotton cloth	25		3 25
8 ⅜ brass ferrules	1 50		12 00
8 ½ "	2 00		16 00
6 ⅝ "	1 25		7 50
72 ¾ "	1 50		108 00
19 ⅞ "	2 00		38 00
			$1,428 50

RECORD OF PUMPING ENGINES FOR YEAR ENDING APRIL 9TH, 1882.

Month	Total Gallons Pumped	Average Head in Feet	Oil	Tallow	Bbls. Coal
1881.					
April	143,259,220	50	50	60	1722
May	227,297,284	50	77½	91	2661
June	257,091,460	50	75	71	2684
July	287,756,220	50	77½	93	2811
August	309,253,752	50	83	112	3290
September	297,035,658	50	63	136	3376
October	267,642,200	50	62	186	2719
November	232,344,920	50	56	165	2298
December	219,781,300	50	61	180	2228
1882.					
January	210,256,240	45	58	74	2060
February	198,443,760	50	52	156	1956
March	230,354,620	50	58	174	2172
April	67,130,500	55	16	48	766
	2,948,347,134		789	1546	30,743

4169

MATERIALS USED—NEW STOCK.

FIRE WELLS AND HYDRANTS.

Jackson street, corner Carondelet.
Sixth street, corner Prytania.
Prytania street, corner Toledano.
St. Andrew street, corner Coliseum.
St. Phillip street, corner Roman.

1 8 inch Gate.
4 6 inch Gates.
16 feet 20 inch pipe.
5 C. I. covers.
5 C. I. frames and covers.
5 W. cases.
415 lbs. pig lead.
4 6x6 Tees.
4 6 inch sleeves.
1 6x8 T.
1 8 inch sleeve.
40 feet 6 inch pipe.
4 Matthews' Hydrants.
4 6x4 Tees.
1 4 inch Gate.
5 feet 6 inch pipe.
4 feet 8 inch pipe.
20 lbs. packing yarn.

HOLLY HYDRANTS.

50 C. I. top covers.
44 C. I valve seats.
44 C. I. valves.
4 C. I. glands.
15 C. I. ferrules.
313 ¾ inch bolts.
44 gum valves.
72 repacked.
30 joints caulked.

4169

STREET SERVICE.

BOSTON HYDRANT.

1 New Leather Valve.

MATHEWS' HYDRANT.

1 Brass screw nut.
1 C. I. top.
70 Excavations for Ser. S. C.
30 Boxes.
180 Fire Hydrantsre packed.
284 Joints caulked.
241 Leaks repaired.
3250 yards Stone paving.
700 yards Flagg paving.
1235 yards Brick paving.
3 3 inch S. C. Screws.
5 4 inch S. C. Screws.
6 6 inch S. C. Screws,
8 8 inch S. C. Screws.
1 10 inch S. C. Screw.
1 18 inch S. C. Screw.
2 6 inch brass S. C. Screws.
1 30 inch brass S. C. Screw.
360 packing box bolts and nuts.
122 ¾ bolts and nuts.
5 ⅞ bolts and nuts.
4 Glands.
6 W. cases.
14 W. frames
5 barrels cement.
69 feet 4 inch pipe.
20 feet 6 inch pipe.
62 feet 8 inch pipe.

STREET SERVICE—Continued.

8 4 inch sleeves.
2 6 inch sleeves.
8 8 inch sleeves.
1 12 inch sleeve.
26 ⅞ bolts and nuts.
10 pounds gum packing.
493 pounds pig lead.
2 3 inch stop cocks.
60 feet 12 inch pipe.
20 Iron wedges.
1 16 inch sleeve.
76 Leaks in service pipe.
6½ yards Rubber cloth.
10 yards Cotton cloth.
185 lbs. White lead
84 lbs. Tarred marlin.
4 gallons boiled oil.

WOODEN CASE AND FLUSH HYDRANTS.

70 Gum valves.
52 Iron rods.
18 Copper rods.
90 Iron screws with and without clamps.
2 Brass H. and nuts.
18 Brass nuts.
170 Iron stirrups and nuts.
140 C. I. valve flanges.
2 C. I. cases.
31 Wooden cases.
9 Wooden front staves and hooks.
6 Wooden C. for Flush H.
161 Lead joints caulked.
70 New joints.

STREET SERVICE—Continued.

299 Re-packed.

50 lbs. New iron washers.

PRIVATE WORK.

1547 feet 4 inch pipe.

2 4 inch Gates.

2 C. I. frames and covers.

2 W. cases.

27½ lbs. Hemp packing.

769½ lbs. pig lead.

1 4x4 T.

2 4 inch ⅛ Bends.

1 Reducer, 7 to 4.

1 4x4 Tee.

3 4 inch Sleeves.

1 3 inch Elbow.

1 3 inch Sleeve.

21 feet 3 inch pipe.

3 feet 4 inch pipe.

66 lbs. pig lead.

Cash Receipts for Year ending April 8th, 1882.

To cash on hand April 9th, 1881	$ 52,615	39
To Water Rates—		
Received for water rates	99,964	70
To Materials and Fixtures—		
Received for materials sold	74	90
To New Improvements—		
Received for pipe, bricks, etc., sold	2,103	32
To Bonds—		
Received for sixty bonds of $500 each sold	30,000	00
To Interest—		
Received for premium and accrued interest on bonds	3,442	50
To Street Service Repairs—		
Received of plumbers for extra work and taps	386	90
To Touro Infirmary—		
Received for materials and labor furnished	771	54
To Carey, R., "Paver"—		
Received for his account	78	50
To MacRitchie & Nichol, Contractors—		
Received for their account	36	06
To Barton, T. S.—		
Received on account of bonds sold	4,000	00
To Bills Payable—		
Received for this account	7,500	00
Amount carried forward	$200,973	81

Cash Expenditures for Year ending April 8th, 1882.

By New Improvements—		
Paid for construction reservoirs, pipe, etc.....		$ 14,812 85
By Pumping Service—		
Paid for salaries and wages, engineers, etc.....		9,813 75
By Street Service Repairs—		
Paid for materials and wages.....		4,296 85
By Hydrant Service—		
Paid for salaries and wages.....		5,738 20
By Office Salaries and Expenses—		
Paid for salaries, rent, stationery, etc.....		11,219 78
By State Taxes—		
Paid for State taxes of 1879.....	$2,915 00	
" " 1881.....	6,044 85	
		8,959 85
By Materials and Fixtures—		
Paid for materials.....		175 00
By Interest—		
Paid coupons of interest on bonds, etc.....		18,278 25
By Coal Account—		
Paid for coal.....		18,239 68
By MacRitchie & Nichol—		
Paid for balance of contracts and pipe laying.....		11,428 11
By Leeds & Co.—		
Paid for materials and labor for general repairs of engine and pumps.....		4,870 62
By Dividends Nos. 3 and 2—		
Paid for dividends.....		37,811 50
Amount carried forward.....		$145,644 44

CASH RECEIPTS—Continued.

Amount brought forward	$200,973	81
To Pumping Service—		
Received for this account.....	72	52
To Toby, Edward—		
Received for this account.....	86	10
	$201,132	43

CASH EXPENDITURES—Continued.

Amount brought forward	$145,644 44
By Carey, R., "Paver"—	
Paid for his account	881 30
By Attorney's Fees—	
Paid for attorney's fees.....	1,083 30
By Touro Infirmary—	
Paid for this account.....	421 68
By Barton, T. S.—	
Paid for this account.....	4,000 00
By Bills Payable—	
Paid for this account.....	7,500 00
By Water Rates—	
Paid for water rates refunded.....	34 00
By Toby, Edward—	
Paid for this account.....	86 10
By Cash—	
For cash on hand April 8th, 1882.....	41,481 61
	$201,132 43

The above statement is a true and correct transcript from the books of the Company.

ALEX. BONNEVAL,
Secretary.

EDWARD TOBY,
President.

Sworn to and subscribed before me, in my office, this 24th April, 1882.

JAMES FAHEY,
Notary Public.

Assets N. O. Water Works Company.

Invested capital, purchase of works	$2,000,000 00
Invested capital, new improvements	352,503 22
Materials and fixtures, materials on hand	325 54
Amount deposited in the N. O. Gaslight Company	10 00
Coal account, coal on hand	5,980 28
Cash on hand	41,481 61
	$2,400.300 65

Liabilities N. O. Water Works Company.

Capital stock	$2,000,000 00
Bonds	350,000 00
Dividends unpaid	6 960 95
Interest coupons, due April 1st, 1882, unpaid	4 485 00
Profit and loss account	38,854 70
	$2,400,300 65

The above statement is a true and correct transcript from the books of the Company.

ALEX. BONNEVAL,
Secretary.

EDWARD TOBY,
President.

Sworn to and subscribed before me, in my office, this 24th April, 1882.

JAMES FAHEY,
Notary Public.

4163

FIFTH

ANNUAL REPORT

OF THE

NEW ORLEANS

WATER WORKS COMPANY.

APRIL 9TH, 1883.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP STREET.—24,955.
1883.

ANNUAL REPORT.

NEW ORLEANS, April 9th, 1883.

In making the usual annual report upon the affairs of the Company, I would say that the way to material improvement and marked financial success has not been without difficulties and impediments, various both in character and magnitude.

The earnest attention of the directory has been engaged in plans for an improvement in the character of the water we furnish, to an improvement and reorganization of the system of records and general conduct of current business, to the maintenance of a proper and reasonable advance in the great majority of the assessments and their equalization, together with the assertion, defense and preservation of the chartered rights of the Company.

The assessments (which seem to have been governed by no fixed rule), when compared with the tariff, have been found too low. Correction, increase and equalization, have created more or less dissatisfaction. An increase has been established however, and the Company is still far within the limits of its authorized tariff. Equalization however, remains to be perfected.

The suit of the city against the Company for taxes is still undecided Notwithstanding the fact that this suit involves a breach of contract, a recent decision of the Supreme Court maintains the city in its position.

The precedent alluded to will doubtless annul the contract covering a free water supply, and secure to the Company its reconventional demand of $40,000 per annum (for five years). Although this amount, as has heretofore been shown, is a very small estimate, the Company will, in view of its aggregation, cheerfully pay its back taxes.

The charter of the Company secures to it the exclusive privilege of laying pipes to the river for a water supply. Exceptions are made in favor of parties contiguous to the river who may obtain permission from the City Council. Several large consumers now have such supply pipes, permission having been accorded them by the city several years ago, and others have recently obtained permission upon application to the City Council. This directory, deeming all this an infringement of the rights of the Company, have, under the advice and counsel of eminent legal ability, taken steps to contest the matter.

Sanitary ordinances, bearing upon provision for a proper household water supply, have been recently enacted by the city government. In the ordinary course of events, these will naturally increase the revenues of the Company. The number of premises in the city wholly destitute of a water supply is great, and the number inadequately supplied, is far greater.

The demand from this source will be met in the liberal spirit and on the equitable terms recently communicated to the Mayor in connection with his approval of the ordinance.

The city ordinances protecting the property of the Company, punishing the waste and stealing of water, etc., were deemed by our attorney as inoperative. They have, therefore, been put into practical shape and re-enacted. In order to give them prompt effect in case of need, the spannermen of the Company have been commissioned as special officers.

Economy in the administration of the Company's affairs has marked the history of the past year, and has been pressed to an extreme limit in all its departments.

The plant, and in general all the property of the Company, is in good order. All the engines have worked well throughout the year, and have required but trifling repairs. A few bursts have been caused by water-rams occasioned by the improper management of the recently introduced hydraulic elevators. These do not necessarily involve suspicion of the integrity of the

4170

mains. There is no doubt of their being competent to twice the pressure to which they are now subjected.

A crack in the floor and wall of one of the basins of our reservoir prevents its present use. The cost of repairs will be comparatively trifling.

No extension of the main pipes worthy of mention has been made during the year, other than the completion of the work which was in progress at the time of the last annual report.

The number of private supply hydrants opened and closed, as against same date last year, is as follows:

Open April 8, 1883.....	4914	Open April 8, 1882.....	4971
Closed " " "	6910	Closed " " "	6264
Total " " "	11,824	Total " " "	11,235

It is proper to say, in connection with the foregoing figures, that the statement in the last annual report involved an error of 589 in the count of closed hydrants.

It is difficult to find the annual report of any Water Company or Water Department which does not contain an earnest complaint and protest on the subject of water waste. Its percentage of the total amount pumped is variously estimated elsewhere at from thirty to fifty per cent. There is abundant evidence that we have ground for complaint as loud as any. Our inspectors and spannermen are constantly on the alert to prevent wanton waste and to enforce repairs of defective household pipes and leaking faucets. The prevention of the enormous waste is a work of no little magnitude, and provokes opposition and irritation among consumers.

It can, perhaps, be effected by perseverance and firmness. So deeply rooted an evil, and an abuse so long suffered, however, is not easily or readily corrected. The remedy lies in a continual and unintermitted house to house inspection, in the forced use of automatic or self-closing faucets, and, above all, as soon as practicable, in the use of meters.

Impressed with a sense of the necessity for an improvement in the character of our water supply, this directory early gave attention to the various ordinary methods for its accomplishment. Careful consideration was given to the revived idea of procuring a supply from the Tangipahoa or the Bogue Falaya river. After an exhaustive examination (the second of a similar character by this Company), this scheme was abandoned, among other reasons, for these: It could not be determined to a certainty that an adequate and unfailing supply from either of the above named sources could be relied upon. Competent authorities expressed grave fears that the necessary confinement of their waters by artificial dams would create corruption from decomposing organic matter. The enormous expense of the undertaking was, in effect, prohibitory, rendering it impracticable, and forbidding its serious contemplation.

The estimate of the consulting engineer of the St. Tammany Company (Col. J. D. Cook), of the cost of bringing a water supply from the Bogue Falaya to the city limits, was four million seven hundred thousand dollars:—or a sum over five times the estimated total cost of the construction of settling basins amply adequate to the needs of our city, together with all necessary improvements and additions to our present machinery and system.

The subject of filtration was also carefully considered. Extended correspondence and inquiry, through this country and Europe, failed to elicit relief from this source, and developed the fact that no system of filtration exists which can be adapted to our circumstances and need.

Our only practical recourse seems to be the erection of settling basins, of such number and capacity as to allow ten to fourteen days' time for subsidence therein before delivery of the water through the mains to the consumer.

This is the view taken by the eminent hydraulic engineer, Col. J. D. Cook, who has been consulted in the matter. He has

submitted a full and elaborate report on the subject, accompanied by plans and estimates, and strongly expresses the opinion that for every reason the water supply of the city should be drawn from the Mississsppi river. His report is now before the Board. under consideration.

I am aware that much has been expected of this administration in elevating the status and advancing the interests of this Company, and every thing feasible has been done to confirm the expressed confidence. it has necessarily been done, however, upon a broader basis than the labor of nine months could possibly bring to completion or develop into startling results.

I congratulate the Directory upon having accomplished so much, and the stockholders upon the flattering prospects the Company enjoys for a prosperous future.

A. BALDWIN,

President.

Cash Receipts for the Year ending April 8th 1883.

Cash on hand April 9th, 1882	$	41,481 61
Cash received for water rates, April 9, 1882, to April 8, 1883		111,077 51
Cash received for repairs, and materials furnished		1,028 37
Cash received for old iron and ashes sold		361 31
Cash received for subscriptions to extension of mains		815 00
Cash received for water pipes sold		2,136 79

Amount carried forward $156,900 59

4170

Cash Disbursements for the Year ending April 8th, 1883.

Paid for wages in department of street service repairs,	$ 4,539	24
Materials, etc., " " "	780	72
Wages and salaries in Pumping Service department	8,192	50
Supplies and materials in Pumping Service department	1,542	08
Repairs in Pumping Service department	232	81
Wages and salaries in department of Hydrant service	6,328	10
Placing stop cocks, department of Hydrant service	178	00
Wages and salaries in Office department	4,267	99
Rent of office	900	00
Stationery and blank books	312	15
Petty expenses and sundries	248	30
Difference in exchange of old safes for new one	202	00
Invoice, Ferrules purchased	110	50
Invoice, Frames, covers, pipes, etc	295	10
Four city maps	60	00
Labor and wages in departmentof Extensions,	1,030	88
Pipe and other materials in department of Extensions	1,664	80
New plunger and other improvements, Knowles' Pump	1,160	80
Changes and improvements in large engine,	2,089	68
Batture sand	359	15
J. D. Cook, consulting engineer, on account,	1,180	00
Sundries, Improvements and Extensions	88	81
Attorney's fees and court expenses	1,947	96
State taxes for 1882	4,919	36
Coal	7,136	73
Amount carried forward	$ 49,767	66

RECEIPTS—Continued.

Amount brought forward	$156,900 59
	$156,900 59

DISBURSEMENTS—Continued.

Amount brought forward	$ 49,767 66
Paid for Printing and advertising	249 25
Keep of horse and buggy	173 50
Rent of telephone (office and works)	150 00
Matured interest coupons on bonds	20,430 00
Interest on loans	184 98
Dividends on stock	28,679 00
Cash on hand April 7th, 1883	57,266 20
	$156,900 59

The above is a true and correct transcript from the books of the Company.

A. BALDWIN,
President.

L. H. GARDNER,
Secretary.

Sworn to and subscribed before the undersigned, a duly commissioned and qualified Notary Public, in and for the Parish of Orleans, State of Louisiana, at New Orleans, this April 9, 1883, as witness my hand and seal.

ANDREW HERO, JR.,
Notary Public.

RECORD OF ENGINES FOR THE YEAR ENDING APRIL 8TH, 1883.

Month	Gallons of Water Pumped	Average Head in Feet	Lbs. Coal Consumed (180 lbs.)	Gallons Oil	Pounds Tallow	Pounds Packing Yarn	Pounds Cotton Waste	Gallons Pumped per pound of Coal	Duty (Pounds Raised One Foot with 100 lbs. Coal)
1882.									
April 9-30	164,234,100	52	1675	39	117	48	39	545	19,484,260
May	251,956,720	53	2448	59	177	74	86	572	25,276,874
June	255,897,720	44	2441	58	171	68	59	582	21,375,877
July	271,837,780	54	2742	62	188	58	59	551	24,807,470
August	262,014,466	54	2907	63	244	82	67	501	22,553,676
September	263,614,380	51	2849	62	251	69	62	514	21,865,394
October	271,421,760	52	2816	65	264	64	62	536	23,221,580
November	265,829,024	50	2706	57	234	61	56	546	22,761,951
December	231,692,364	52	2440	57	212	38	55	528	22,809,151
January, 1883	214,569,480	54	2340	60	240	68	59	509	22,936,013
February	186,298,820	54	1927	52	210	52	53	537	23,592,715
March	210,856,980	55	2142	58	231	59	58	547	25,089,519
April 1-8	50,385,626	52½	485	13	56	14	14	577	25,270,726
Totals	2,980,549,214		29,918	705	2595	755	7_9		
Same time last year	2,948,347,134		30,743	789	1546				

Total revenue of the works—Water rates $111,794 19

Total expense of operating the works, exclusive of interest on bonds 44,304 97

Average cost of coal per barrel of 180 lbs ..... 37 cents.

NUMBER AND MAKE OF FIRE HYDRANTS IN USE.

	Above Canal St.	Below Canal St.	Total.
Wooden Case	327	366	693
Underground	78	54	132
Holly	55	62	117
Mathew	51	7	58
Philadelphia	29	26	55
Boston	2	2	4
Fire Wells	36	24	60
	578	541	1119

SIZES AND QUANTITY OF PIPE IN CITY DISTRIBUTION.

3 inch	26,675	16 inch	21,175
4 inch	67,650	18 inch	16,400
6 inch	89,578	20 inch	2,300
8 inch	94 725	24 inch	2,400
10 inch	23,600	30 inch	16,100
12 inch	8,375	36 inch	3,300

Total, 372,278 feet or 70.50 miles.

Gates or main stop cocks, total 530

PRIVATE SERVICE.

	Open.	Closed.	
Hydrants above Canal Street	2162	4131	
Hydrants below Canal Street	2745	2786	
Totals	4907	6917	11,824

CLASSIFICATION OF WATER TAKERS.

Families	3147
Stores	392
Saloons, Restaurants and Clubs	284
Steam Factories, Cotton Presses, Breweries, Bakeries, etc.	189
Business Offices	158
Stables	155
Groceries, with Cabarets	105
Factories and Labor Shops, without steam	94
Boarding Houses and Furnished Rooms	82
Churches, Schools and Halls	82
Engine Houses, Public Buildings, etc	49
Bakeries, without steam	43
Barbers	32
Fountains	29
Gas Engines	25
Laundries and Dyers	12
Hotels, 3; Theatres, 3	6
Various, not included above	21
Total	4907

4170

WORK DONE BY STREET SERVICE REPAIRS DEPARTMENT.

259 Leaks on main pipes repaired and joints caulked.
10 Cracked pipes replaced.
61 Service pipes broken in the street, repaired
8 Cement pipes repaired.
82 Stop cocks dug for and found,
150 Leaking stop cocks repaired.
25 Stop cocks furnished with new screws.
200 Stop cocks, packing renewed.
404 Stop cocks, joints caulked.
147 W. C. Fire Hydrants repaired.
22 C. G. Fire Hydrants repaired.
46 Holly Fire Hydrants repaired.
2 Mathew Fire Hydrants repaired.
1 Fire Hydrant replaced.
328 Leaks in Fire Hydrants stopped.
176 Joints caulked Fire Hydrants.
3696 Yards Stone Pavement relaid.
1164 Yards Brick Pavement relaid.
660 Yards Flag Pavement relaid.

PRINCIPAL MATERIALS USED IN IMPROVEMENTS AND EXTENSIONS.

APRIL 8, 1882, TO APRIL 8, 1883.

40 feet 3 inch pipe.
1170 feet 4 inch pipe.
668 feet 6 inch pipe.
1027 feet 8 inch pipe.
6 Mathews Fire Hydrants.
6 Philadelphia Fire Hydrants.
7 Wooden Case Fire Hydrants.
6 8x6 Tee Branches.
2 6x6 Tee Branches.
2 6x4 Tee Branches.
3 4x4 Tee Branches.
2 4x3 Tee Branches.
1 8x6 Cross Branch.
1 6x4 Cross Branch.
3 4x4 Cross Branches.
5 4 inch Goose Necks.
2 3 inch Goose Necks.
4 Gates, 1 each, 8, 6, 4 and 3 inch.
4 Sleeves, 1 each, 8, 6, 4 and 3 inch.
3 6 inch Quarter Bends.
8 Cases and Covers.
2750 pounds Pig Lead.
135 pounds Packing Yarn.

INVENTORY OF STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

2	Lengths	48	in.	Pipe,	weighing	16,800 lbs.	
6½	"	36	"	"		39,650	
23½	"	30	"	"		100,110	
2	"	24	"	"		6,512	
5	"	20	"	"		11,855	
2	"	18	"	"		3,210	
4	"	16	"	"		6,240	
38¼	"	12	"	"		40,733	
8	"	12	"	"		5,648	
5	"	10	"	"		4,035	
28	"	8	"	"		17,024	
43	"	6	"	"		18,490	
						270,307 lbs.	
	135.15 tons	@	$40 00				$ 5,406 00
2	36	in.	Sleeves,	weighing		2,308 lbs.	
1	30	"	"			1.050	
1	24	"	"			755	
5	16	"	"			1.720	
10	10	"	"			1,180	
12	6	"	"			1,068	
4	4	"	"			228	
2	3	"	"			50	
						8.354 lbs.	
	4.17 tons	@	$65 00				271 05
1	30x 8	in.	four Way	Branch,	weighing	2.560 lbs.	
1	20x10	"	"	"	"	1,476	
1	16x12	"	"	"	"	1.034	
5	16x 8	"	"	"	"	3,910	
5	16x 6	"	"	"	"	3.525	
3	12x 8	"	"	"	"	1,644	
4	12x 6	"	"	"	"	1,944	
1	10x 6	"	"	"	"	394	
1	8x 6	"	"	"	"	373	
1	6x 4	"	"	"	"	229	
						17,089 lbs.	
	8.54 tons	@	$65 00				555 10
3	36x 8	in.	three Way	Branches,	weighing	9,000 lbs.	
5	30x12	"	"	"	"	10,650	
1	18x12	"	"	"	"	800	
1	16x 8	"	"	"	"	650	
1	12x 8	"	"	"	"	525	
	Amount carried forward					21,625 lbs.	$6,232 15

INVENTORY OF STOCK ON HAND—Continued.

	Amount brought forward.....21,625 lbs.			6,232 15
1	12x 6 in. three Way Branch, weighing		428	
13	8x 6 " " " "		3,198	
7	6x 6 " " " "		1,645	
4	6x 4 " " " "		756	
1	4x 3 " " " "		86	
			27,738 lbs.	
	13.87 tons @ $65 00.....			901 55
1	20 to 12 in. Reducer, weighing		654 lbs.	
2	12 to 8 " "		520	
1	12 to 6 " "		270	
1	12 to 4 " "		229	
1	8 to 6 " "		153	
6	8 to 4 " "		708	
2	8 to 3 " "		460	
8	6 to 4 " "		920	
			3,914 lbs.	
	1.95 tons @ $65 00.....			126 75
1	16 in. ¼ Bend, weighing.....		320 lbs.	
4	8 in. ¼ " "		584	
2	30 in. ¼ " "		4,260	
2	8 in. ¼ " "		292	
1	12 in. Bevel Hub. "		353	
			5,809 lbs.	
	2.90 tons @ $65 00			188 50
1	30 inch Iron Plug for Ends, weighing.....409 lbs.			
12	8 inch Iron Plugs for Ends, weighing...180			
			589 lbs.	
	.294 tons @ $65 00			19 10
1	20 inch Fire Well, weighing.....		1,100 lbs.	
2	Fire Well Covers, weighing		400	
			1,500 lbs.	
	.75 ton @ $65 00			48 75
1	20 inch Valve		$178 50	
1	12 "		90 00	
2	10 " ....@$66 00		132 00	
6	8 " 48 50		291 00	
2	6 " 33 00		66 00	
1	Derrick		25 00	782 50
				$8,299 30

4170

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS.

16 Cast Iron Frames and Covers, 2958 pounds.
3 Cast Iron Frames and Covers, 300 pounds.

	3228 pounds..@	$ 05	$161 40
4 large Cypress S. C. Boxes		4 00	16 00
3 small Cypress S. C. Boxes		3 00	9 00
23 pieces 4 in. pipe for raising Fire Hydrants, 2070 lbs		05	103 50
3 4 inch Goose Necks, 477 lbs. 1 3 inch Goose Neck, 129 lbs.			
	606 lbs	05	30 30
12 Cypress Cases for U. G. Fire Hydrants		50	6 00
5 Cases for W. C. Fire Hydrants		6 00	30 00
38 ½ inch Brass Ferrules		1 25	47 50
45 ⅝ inch Brass Ferrules		1 50	67 50
35 ¾ inch Brass Ferrules		2 00	70 00
8 ⅝ inch Boston Ferrules		1 50	12 00
8 ¾ inch Boston Ferrules		2 00	16 00
20 Wrought Iron Rods for Fire Hydrants		50	10 00
3 Screws without Clamps		3 00	9 00
4 Wrought Stirrups and Nuts		75	3 00
2 Cast Iron Philadelphia Cases		6 00	12 00
6 Cast Iron Covers for W. C. Hydrants		2 00	12 00
2 Cast Iron Frames and Covers for U. G. Hydrants		3 50	7 00
10 Cast Iron Covers for Holly Hydrants		2 50	25 00
10 Cast Iron Valves for Holly Hydrants		6 00	60 00
15 Cast Iron Valve Seats for Holly Hydrants		5 00	75 00
10 Cast Iron Ferrules for Holly Hydrants		25	2 50
14 Cast Iron Glands for Holly Hydrants		1 50	21 00
Amount carried forward			$805 70

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

	Amount brought forward			$ 805 70
20	Cast Iron Top Nuts for Mathews Fire Hydrants	@	$1 25	25 00
3	Brass Hollow Screws and Nuts for U. G. Hydrants		8 00	24 00
10	Brass Nuts for U. G. Hydrants		1 50	15 00
5	Brass Screw Nuts for Mathews Hydrants		4 00	20 00
61	Gum Valves for Fire Hydrants		1 25	76 25
10	Gum Valves for Holly Fire Hydrants		50	5 00
75	½ inch Bolts for Mathews Fire Hydrants		10	7 50
1	New Boston Drilling Machine, with drills and taps, complete			100 00
1	Old Drilling Machine			10 00
	Scales, Vices, Drills and other Tools in shop			100 00
				$1,188 45

For Repairs of Stop Cocks.

7	3 inch Iron Screws	@	$ 6 00	$42 00
9	4 " "		6 50	58 50
5	6 " "		7 00	35 00
6	8 " "		7 50	45 00
7	10 " "		10 00	70 00
8	12 " "		10 50	84 00
7	16 " "		11 50	80 50
6	18 " "		12 00	72 00
14	6 inch Screws for Ludlow Gates		5 50	77 00
27	8 " " " "		6 00	162 00
3	4 " " Boston Gates		5 00	15 00
3	6 " " "		5 50	16 50
6	8 " " "		6 00	36 00
	Amount carried forward			$1,981 95

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

	Amount brought forward		$1,981 95
For Repairs of Stop Cocks.			
10	6 inch Brass Screws for Boston Gates	@$ 6 00	60 00
11	8 " " " "	6 50	71 50
53	Cast Iron Glands, for packing 3 to 12 inch Gate Boxes (unfinished).....	1 00	53 00
40	Cast Iron Glands, for packing 16 to 18 inch Gate Boxes (unfinished)	1 25	50 00
33	Cast Iron Glands, for packing 4 to 8 inch Gate Boxes (finished).....	2 00	66 00
29	Wrought Iron Packing Bolts	75	21 75
40	⅝ inch Wrought Iron Bolts and Nuts...	15	6 00
			$2,310 20

Assets N. O. Water Works Company.

Invested Capital	$2,000,000 00
Invested Capital, Improvements and Extensions	360,726 15
Cash on hand	57,266 20
Materials and Fixtures on hand	2,915 79
Coal on hand	2,087 00
Due by U. S. Custom House	466 68
Due by U. S. Mint	250 00
Due by City of New Orleans	263 10
Deposited with N. O. Gas Light Co.	10 00
	$2,423,984 92

Bills for Water Rates, in course of collection, not included above $1,079 80

Liabilities N. O. Water Works Company.

Capital Stock	$2,000,000 00
Bonds	350,000 00
Dividends unpaid	8,281 95
Coupons unpaid	5,340 00
Profit and Loss	60,362 97
	$2,423,984 92

The above is a true and correct transcript from the books of the Company.

A. BALDWIN,
President.

L. H. GARDNER,
Secretary.

Sworn to and subscribed before the undersigned, a duly commissioned and qualified Notary Public, in and for the Parish of Orleans, State of Louisiana, at New Orleans, this April 9, 1883, as witness my hand and seal.

ANDREW HERO, JR.,
Notary Public.

OFFICE OF THE NEW ORLEANS WATER WORKS COMPANY.
NEW ORLEANS, April 11, 1883.

At a meeting of the Board of Directors of this Company, held this day, a dividend of two dollars and fifty cents per share was declared to the Stockholders of this date, payable on demand, leaving a balance of $10,362 97 at the credit of profit and loss account.

L. H. GARDNER,
Secretary and Treasurer.

4171

SIXTH

ANNUAL REPORT

OF THE

NEW ORLEANS

WATER WORKS COMPANY.

APRIL 9TH, 1884.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP STREET.—28401
1884.

ANNUAL REPORT.

NEW ORLEANS, April 9th, 1884.

To the Board of Directors New Orleans Water Works Company:

Gentlemen—It gives me great pleasure to report a continued and general improvement in the affairs and prosperity of the Company.

My last report promised results under the head of Equalization of Assessments, time for which had not then been allowed. During the past summer the premises of each and every subscriber was inspected and the results reported back to the office on blanks provided for the purpose. These inspections developed, among other information, the fact that plumbers and consumers have not always considered it necessary to report alterations and additions to their water service. Inspection and estimate of the consumption by steam users and other large water-takers, where mechanical knowledge, accuracy and expert skill were required, was entrusted to Mr. Wm. Golding, whose ability and valuable counsel as an expert and engineer I desire specially to recognize and acknowledge.

The systematic inspection alluded to, gave data and basis for a material increase in the general assessment. Special care has been taken to have all assessments fall far within the limits of our authorized tariff, and at the same time bear an equitable relation to each other in the various classes of water-takers.

The competition of the above ground cistern supply has been brought well to the front during the past year. It has been found advisable to ignore it. The competition of well water practically amounts to nothing. Intelligent steam users will not endorse its use, chiefly because of its peculiar mischevious sediment. The people of New Orleans have proved willing, after

a little natural remonstrance, to pay a fair price for water supplied by the company, as is shown by the fact that the collected revenue is $17,000 above that of the preceding year. The number of hydrants or taps is 141 less than last year at this date.

In connection with this allusion I report that the very thorough inspection made last summer developed the fact that we have been carrying on our books a large number of hydrants classed as "closed," which are, in reality, destroyed. Nothing is now classed as a tap or hydrant which is not represented by a hydrant standard or other visible above-ground evidence of connection with the mains. Those classed as "destroyed" have become such, chiefly from builders' changes.

The diminished quantity of water pumped, taken in connection with increase revenue of the year, indicates that the subject of waste has had a fair and effectual amount of attention. No special device or appliance has been used, beyond constant supervision.

As a result of unremitting attention, coal consumption has been greatly reduced. The new boilers, elsewhere reported, and the adopted system of accurately weighing the coal, when purchased, and as consumed from day to day, will, I am confident, reduce this expense very greatly during the coming year.

Efforts have been made to extend the mains of the company in various directions under the terms of our charter, but without success. I hoped to have seen 16,000 feet of 8-inch pipe laid on St. Charles Avenue between Lee Circle and the City Park. The laying of the Barber asphalt pavement on that avenue, the consequent difficulty and expense which will thereafter attend the laying of a main, the valuable residences present and prospective on that line, the absence of adequate water supply for extinguishing fires, flushing streets, watering gardens, etc., all seemed to indicate this avenue as a favorable locality for an immediate extension of the mains. The Insurance Companies of the city were asked to pay for the fire hydrants which this Company's char-

4171

ter requires to be placed, and from which the public supply is at present free. The request was practically refused. The result, of subscription papers, or promises of patronage, among the residents of the avenue was so insignificant in comparison with the cost of the work that the enterprise was abandoned.

. report this that it may be of record.

Since my last report it has become evident that a revision, or remodeling of our machinery and reservoirs is a matter of absolute necessity. What is known as the "new" or "big" engine, a beam condensing engine, working full stroke, designed by Erastus W. Smith, and built by the Novelty Works, New York, in 1860, has been found too expensive in coal consumption for ordinary use. The work of the year has been done by our old condensing beam engine, now in use for thirty-six years, and the horizontal compound Knowles' pumping engine. The capacity of the first is about seven millions gallons in twenty-four hours, and of the latter about four millions gallons in twenty-four hours. The drouth of last summer demonstrated the incapacity of these two engines to meet unusual emergencies, or any greatly increased demand upon the works, and the use of the "big" engine showed a most extravagant use of coal. It was run seventeen hours daily for sixteen days consecutively, during the drouth, with an average boiler pressure of twenty-five pounds; average head or height of column fifty-five feet; average of water pumped daily, nine millions gallons; average coal consumption, one hundred and five barrels, or 18,900 pounds; duty, twenty-two million foot pounds.

E. P. Allis & Co., of Milwaukee, proposed to remodel this engine by compounding, etc., making it capable of delivering twenty-two millions gallons in twenty-four hours, and show a duty of ninety million foot pounds, with a consumption of less than half the amount of coal now required by it.

Mr. Wm. Golding, being consulted as to the policy of remodeling this piece of machinery, gave it as his opinion, that very

little could be done to improve it, either by compounding or otherwise. Messrs. Allis & Co. have, however, given a satisfactory guarantee to accomplish the result they promise, and at a cost which will be repaid by the difference in the coal consumption of the engine in two years.

The double flue boilers, at the pumping station, being materially worn, it has been deemed advisable to replace them with steel return tubular boilers, as suggested by Col. J. D. Cook.

I am glad to say that the contract for their construction was awarded to home manufacturers (E. & J. O'Rourke), theirs being the lowest bid among several foreign and local competitors. Their erection, testing, etc., has been confided to the supervision of Mr. Golding.

If maintained, as it stands, our reservoir promises to be expensive. The repairs put upon the basins have not been extensive, but careful examination shows such a deterioration of their material as to foreshadow the necessity for their rebuilding or abandonment. In the latter event, continuous pumping will be resorted to, which, in the opinion of many eminent engineers, is not much, if any more, expensive than intermittent pumping.

It is feasible and practical for our Company to supply the city with crystal clear water. Experiments, conducted by Mr. L. H. Gardner, during the past eighteen months, have demonstrated to the satisfaction of the Directory the practicability of thus clarifying the water of our river, and of thus supplying our people with a water inferior to none, and vastly superior to most public supplies from whatever source derived. Settling reservoirs adapted to this system have been designed by Col. Cook, to be erected on grounds already owned by the Company. Their cost, and that of additional machinery, etc., is entirely within the limits of prudent investment for such a purpose.

If the relations of the Company to the city can be equitably determined, and the letter and spirit of the charter of the Company fairly construed by the courts, in the now pending

litigation, I shall strongly advocate the adoption of the system for a clear water supply above alluded to, to be furnished, of course, at our present tariff rates. As matters now stand, the city is the beneficiary of the Company to the extent of about half of the water we pump, and wants to exact, additionally, the payment of a large assessment for taxes. Pending these conditions, I do not recommend any improvement or expenditure beyond what may be necessary to the maintenance of our present system. Referring to the details of the affairs of the Company, presented herewith, I am,

Respectfully,

A. BALDWIN,

President.

Cash Receipts for the year ending with April 8th, 1884.

Cash on hand April 7, 1883	$	57,266 20
For Water rates		127,228 50
Repairs and materials furnished		1,219 81
Water pipes sold		983 44
Ashes sold		26 55
Plumbers' Licenses, etc		59 90
Materials and fixtures sold		33 05
City of New Orleans, amount due		263 10
		$187,080 55

Cash Disbursements for the year ending with April 8, 1884.

Wages and salaries, Pumping Service department..$	7,558 06
Supplies, Pumping Service department.....	2,516 50
Repairs, Pumping Service department.....	1,139 35
Wages and salaries, Hydrant Service department...	7,808 80
Wages and salaries, Office Service.....	4,288 20
Wages and salaries, Street Service department.....	4,238 60
Materials and repairs, Street Service department...	687 85
Tools and fixtures, Street Service department.....	220 52
Labor in departments of Improvements and Extensions.....	1,898 50
Water pipe, specials, etc., purchased	4,926 41
Consulting Engineers.....	1,635 70
Printing and advertising.....	420 50
Blank books and stationery.....	348 90
Telephone.....	165 28
Rent of office.....	825 00
Petty expenses	302 95
Keep of horse and buggy, and repairs.....	305 95
Interest on loans and exchange.....	412 03
Matured interest coupons on bonds paid.....	20,235 00
Coal purchased.....	15,142 06
Attorneys' fees and legal expenses.....	2,984 09
State taxes for 1883.....	5,378 01
Dividends paid.....	47,919 50
Water rates refunded.....	173 05
Cash on hand.....	55,549 74
	$187,080 55

RECORD OF ENGINES FOR THE YEAR ENDING APRIL 8TH, 1884.

Month.	Gallons of Water Pumped	Average Head in Feet	Bbls. Coal Consumed (180 lbs.)	Gallons Oil	Pounds Tallow	Pounds Packing Yarn	Pounds Cotton Waste	Gallons Pumped per pound of Coal.	Duty. (Pounds Raised One Foot with 100 lbs. Coal)
1883.									
April 9-30	159,300,080	55	1569	41	166	32	41	564	25,874,981
May	242,792,760	55	2184	56	232	34	58	618	28,073,415
June	212,076,510	56	1969	31	229	67	55	598	24,953,563
July	227,084,696	55	2005	32	236	38	62	629	26,763,149
August	245,962,356	53	2253	36	276	38	65	607	26,804,803
September	243,431,280	55	2009	40	282	28	70	518	25,945,263
October	264,085,446	53	2772	44	243	24	66	529	25,605,213
November	246,122,380	54	2285	33	171	33	60	598	28,952,898
December	232,237,690	54	2150	29	188	27	59	600	28,284,498
January, 1884	224,801,872	60	2652	32	220	20	52	471	22,581,428
February	203,552,082	54	1934	21	179	15	53	585	24,140,300
March	203,426,840	54	2033	24	193	14	50	556	21,789,658
April 1-8	54,148,892	49	624	7	46	14	12	482	17,291,964
Totals	2,759,022,884		27,039	426	2661	384	703		
1882-1883.	2,900,549,214		29,918	705	2595				
1881-1882.	2,948,347,134		30,743	789	1546				

		1883.	1882.
Total collected for Water Rates	$128,337 21	$111,077 51	$99,964 70
Total expense of operating the works, exclusive of interest on bonds	40,282 00		
Average cost of coal per barrel of 180 lbs	36¼ cents.		

NUMBER AND MAKE OF FIRE HYDRANTS IN USE.

	Above Canal St.	Below Canal St.	Total.
Wooden Case	330	366	696
Underground	79	54	133
Holly	63	62	125
Mathew	54	7	61
Philadelphia	29	26	55
Boston	2	2	4
Fire Wells	36	24	60
	593	541	1134

SIZES AND QUANTITY OF PIPE IN CITY DISTRIBUTION.

3 inch	26,675 feet	16 inch	21,175 feet
4 inch	67,410 feet	18 inch	16,400 feet
6 inch	91,844 feet	20 inch	2,300 feet
8 inch	95,751 feet	24 inch	2,400 feet
10 inch	23,600 feet	30 inch	16,100 feet
12 inch	8,375 feet	36 inch	3,300 feet

Total, 375,330 feet, or 70 miles.

Gates or main stop cocks, total.....536

PRIVATE SERVICE.

	Open.	Closed.
Hydrants above Canal Street	2082	2775
Hydrants below Canal Street	2684	2283
Totals	4766	5058

CLASSIFICATION OF WATER TAKERS.

Families	2768
Stores	609
Saloons, Restaurants and Clubs	289
Steam Factories, Cotton Presses, Breweries, Bakeries, etc.	176
Business Offices	124
Stables	124
Groceries, with Cabarets	132
Factories and Labor Shops, without steam	105
Boarding Houses and Furnished Rooms	153
Churches, Schools and Halls	40
Engine Houses, Public Buildings, etc.	52
Bakeries, without steam	46
Barbers	35
Fountains	27
Gas Engines	13
Laundries and Dyers	25
Hotels and Theatres	7
Various, not included above	27
Railroad Standpipes and Elevators	14
Total	4766

WORK DONE BY STREET SERVICE REPAIRS DEPARTMENT.

171 Leaks on main pipes repaired and joints caulked.
14 Cracked pipes replaced with new pipes.
15 Cracked pipes tied.
29 Service pipes broken and tied.
11 Cement pipes broken and tied.
43 Stop cocks dug for and found.
23 Service pipes cut.
199 Leaking stop cocks repaired.
20 Stop cocks furnished with new screws.
239 Stop cocks, packing renewed.
279 Stop cocks, joints caulked
120 Wooden cased Fire Hydrants repaired.
10 New Cypress Cases for Fire Hydrants, with covers and hinges.
90 Wooden Cases repaired for Fire Hydrants.
30 Under ground Fire Hydrants repaired.
3 New Cypress cases for under ground Fire Hydrants.
38 Holly Fire Hydrants repaired.
2 Boston Fire Hydrants repaired.
1 Mathew Fire Hydrant repaired.
70 Leaks on Fire Hydrants stopped.
2 W. C. Fire Hydrants broken and replaced with others.
262 Joints caulked on Fire Hydrants.
270 Packing renewed on Fire Hydrants.
3122 Yards of Stone Pavement relaid.
637 Yards of Flag Pavement relaid.
1176 Yards of Brick Pavement relaid.

PRINCIPAL MATERIALS USED IN IMPROVEMENTS AND EXTENSIONS.

1967 feet of 6 inch pipe.
288 feet of 4 inch pipe.
3 6x6 Four way Branches.
1 10x6 Four way Branches.
5 6x6 Three way Branches.
6 6x4 Three way Branches.
2 6 inch Valves.
1 3 inch Valve.
1 8 inch Valve.
1 10 inch Sleeve.
1 6 inch Sleeve.
9 Holly Fire Hydrants.
3 Iron Frames and Covers.
4 Cypress Cases.
3 Cypress Frames.
2331 Pounds Pig Lead.
120 Pounds Packing Yarn.

MATERIALS SOLD.

69 Lengths 4 inch Pipe.
62 Lengths 6 inch Pipe.
5 Lengths 8 inch Pipe.
6 Quarter Bends.
5 Tee Branches
1 4 inch Valve.
1 6 inch Valve.
2 4 inch Sleeves.
1 6 inch Sleeve.

4171

INVENTORY OF STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

2 lengths of 48 inch pipe.
6½ lengths of 36 inch pipe.
23½ lengths of 30 inch pipe.
2 lengths of 24 inch pipe.
5 lengths of 20 inch pipe.
2 lengths of 18 inch pipe.
4 lengths of 16 inch pipe.
38½ lengths 12 inch pipe.
8 lengths of 12 inch pipe.
4½ lengths of 10 inch pipe.
19 lengths of 8 inch pipe.
41 lengths of 6 inch pipe.
6 lengths of 4 inch pipe.
82 lengths of 3 inch pipe.

SPECIALS.

2 36 inch sleeves.
1 30 inch sleeve.
1 24 inch sleeve.
5 16 inch sleeves.
6 12 inch sleeves.
9 10 inch sleeves.
8 8 inch sleeves.
18 6 inch sleeves.
12 4 inch sleeves.
5 3 inch sleeves.
1 6 inch ¼ bend.
1 8 inch ¼ bend.
1 16 inch ¼ bend.
2 30 inch ¼ bends.
2 8 inch ¼ bends.
6 6 inch ¼ bends.
1 12 inch bevel bend.

INVENTORY OF STOCK ON HAND—Continued.

1 from 20 to 12 inch reducing pipe.
2 from 12 to 8 inch reducing pipes.
1 from 12 to 6 inch reducing pipe.
1 from 12 to 4 inch reducing pipe.
1 from 8 to 6 inch reducing pipe.
6 from 8 to 4 inch reducing pipes.
2 from 8 to 3 inch reducing pipes.
8 from 6 to 4 inch reducing pipes.
1 30 inch iron plug for ends of pipes
11 8 inch iron plugs for ends of pipes.
1 20 inch fire well.
2 fire well covers.
1 20 inch valves.
1 12 inch valves.
2 10 inch valves.
4 8 inch valves, good.
5 8 inch valve, no good.
1 30x 8 inch Four way Branches.
1 20x10 inch Four way Branches.
1 16x12 inch Four way Branches.
5 16x 8 inch Four way Branches.
5 16x 6 inch Four way Branches.
3 12x 8 inch Four way Branches.
4 12x 6 inch Four way Branches.
6 8x 8 inch Four way Branches.
8 8x 6 inch Four way Branches.
1 8x 4 inch Four way Branches.
9 6x 6 inch Four way Branches.
6 4x 4 inch Four way Branches.
3 36x 8 inch Three way Branches.
5 30x12 inch Three way Branches.
1 18x12 inch Three way Branches.
1 16x 8 inch Three way Branches.

4171

INVENTORY OF STOCK ON HAND—Continued.

2 12x 8 inch Three way Branches.
1 12x 6 inch Three way Branches.
12 8x 6 inch Three way Branches.
6 8x 4 inch Three way Branches.
14 6x 4 inch Three way Branches.
6 4x 4 inch Three way Branches.
8 4x 3 inch Three way Branches.

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE AND REPAIRS.

10	Wooden Case Fire Hydrants	@$ 25	$250 00
6	Philadelphia Fire Hydrants	20	120 00
2	Underground Fire Hydrants	18	36 00
1	Holly Fire Hydrant		30 00
2	Cast Iron Philadelphia Cases	4 00	8 00
2	U. G. Frames	50	1 00
8	Hinged Covers for W. C. Hydrants	3 50	28 00
23	pieces 4 inch pipe for raising Hydrants	4 50	103 50
6	4 inch Goose Necks	7 95	47 70
95	Wrought Bands for W. C. Hydrants	40	38 00
62	Wrought Screws without Clamps	1 75	108 50
20	Stirrups and Nuts	75	15 00
6	Wrought Rods for W. C. Hydrants	55	3 30
6	Wrought Rods for Philadelphia Hydrants	50	3 00
7	Wrought Rods for U. G. Hydrants	40	2 80
11	Copper Rods for U. G. Hydrants	1 00	11 00
8	Brass Nuts for U. G. Hydrants	75	6 00
3	Brass Hollow Screws for U. G. Hydrants	6 50	19 50
23	Gum Valves	1 30	29 90
	For Holly Hydrants.		
12	Wrought Iron, Brass Covered Screws	3 00	36 00
10	Cast Iron Ferrules	30	3 00
12	Cast Iron Valves	3 00	36 00
21	Cast Iron Valve Seats	4 00	84 00
14	Cast Iron Glands	2 00	28 00
11	Cast Iron Top Covers	2 50	27 50
8	¾ inch Bolts	15	1 20
7	Gum Valves	50	3 50
	For Mathew Hydrants.		
19	Cast Iron Top Nuts	2 50	47 50
4	Brass Hollow Screws	4 50	18 00
16	Gum Valves	1 50	24 00
15	¾ inch Bolts	15	2 25
	For Boston Gates.		
7	6 inch Brass Screws	5 00	35 00
5	8 inch Brass Screws	5 50	27 50
5	6 inch Iron Screws	5 00	25 00
5	8 inch Iron Screws	5 50	27 50

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

For Ludlow Gates.			
2	6 inch Brass Screws.....@	$ 5 00	10 00
4	8 inch Brass Screws.....	5 00	20 00
2	4 inch Iron Screws.....	5 00	10 00
14	6 inch Iron Screws.....	5 00	70 00
27	8 inch Iron Screws.....	5 00	135 00
For W. C. and Other Repairs.			
8	3 inch Iron Screws.....	5 00	40 00
9	4 inch Iron Screws.....	5 25	47 25
12	6 inch Iron Screws.....	5 50	66 00
2	8 inch Iron Screws.....	5 73	11 50
7	10 inch Iron Screws.....	6 00	42 00
9	12 inch Iron Screws.....	6 25	56 25
5	16 inch Iron Screws.....	7 00	35 00
6	18 inch Iron Screws.....	7 50	45 00
53	Unfinished Cast Iron Glands, 3 to 12 inch	40	21 20
40	Unfinished Cast Iron Glands, 16 to 18 inch	60	24 00
33	Finished Cast Iron Glands, 4 to 8 inch	75	24 75
20	Wrought iron Packing Bolts.....	50	10 00
15	⅜ inch Wrought Iron Bolts.....	15	2 25
23	pounds ¾ Washers.....	18	4 15
10	Cast Iron Frames and Covers, 1850 lbs	5	92 50
31	⅝ inch Ferrules.....	1 50	46 50
19	¾ inch Ferrules.....	2 00	38 00
38	½ inch Ferrules.....	1 25	47 50
2	Drilling Machines		110 00
	Scales, Vises, Drills and other Tools in shop.....		100 00
			$2,396 00

Assets N. O. Water Works Company.

Invested Capital	$2,000,000 00
Invested in Improvements and Extensions	367,070 27
Cash on hand	55,549 74
Materials and Fixtures on hand	3,574 51
Coal on hand	6,263 48
Due by U. S. Custom House	466 69
Due by U. S. Mint	250 00
Due by N. O. Cotton Exchange	1538 58
Deposited with N. O. Gas Light Co	10 00
	$2,434,723 27

Bills for Water Rates in course of collection, not included in above Assets $6197 00

Liabilities N. O. Water Works Company.

Capital Stock	$2,000,000 00
Bonds	350,000 00
Dividends unpaid	10,362 45
Coupons unpaid	6,105 00
Profit and Loss	68,255 82
	$2,434,723 27

The above is a true and correct transcript from the books of the Company.

A. BALDWIN,
President.

L. H. GARDNER,
Secretary.

Sworn to and subscribed before the undersigned, a duly commissioned and qualified Notary Public, in and for the Parish of Orleans, State of Louisiana, at New Orleans, this April 9, 1884, as witness my hand and seal.

ANDREW HERO, JR.,
Notary Public.

OFFICE OF THE NEW ORLEANS WATER WORKS COMPANY
NEW ORLEANS, April 9, 1884.

At a meeting of the Board of Directors of this Company, held this day, a dividend of three dollars per share was declared to the Stockholders of this date, payable on demand.

L. H. GARDNER,
Secretary and Treasurer.

4172

SEVENTH

ANNUAL REPORT

OF THE

NEW ORLEANS

Water Works Company.

APRIL 9th, 1885.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.—31605
1885.

ANNUAL REPORT.

NEW ORLEANS, April 8th, 1885.

To the Board of Directors New Orleans Water Works Company:

Gentlemen—The principal feature of the Company's history during the past year is the contract with the city for public water supply.

The Legislature of 1884 passed an act (No. 56), authorizing and directing such a contract. The City Council passed an ordinance pursuant thereto, on September 23d, 1884. Under your instructions I have, on behalf of the Company, consummated the matter by notarial act before Joseph D. Taylor, Notary Public, under date of October 3d, 1884. This contract provides that the city shall pay the Company, during the Company's life, beginning January 1st, 1885, sixty dollars per annum for the use of each fire hydrant and fire well now in existence. The present number is 1139, representing a yearly revenue of $68,340.00. This number of fire hydrants, etc., is not to be decreased. If increased, the price and payment is to be sixty dollars each per annum. Payment under our contract is to be made in monthly instalments. It is made the duty of the Comptroller and Treasurer of the city to set apart from all revenue collections the proportion of same due to this Company, under its contract, as a distinct fund. In event of prompt monthly payments by the city, a discount of six per cent. is to be made by the Company, which discount or allowance is to be deducted from the December payment. In event of any monthly payment not being promptly made, then the amount is to bear interest at the rate of eight per cent. per annum from the last day of that month until payment.

The matter of payment for public water supply for the past

six years, and of city taxes for same period of time, remain in abeyance and unsettled.

The revenues of the Company for the past year show continued improvement, irrespective of the partial payments received from the city, and you have the ability to declare a larger dividend than the Company has ever before paid. I recommend, however, that you reserve yourselves to some extent for another dividend six months hence; and that you hereafter declare semi-annual dividends, say on October 8th and April 8th of each year.

The future revenues of the Company have now a basis and prospect of permanence. Stockholders can reasonably anticipate a regularity in the amount of revenue therefrom, and the payment of semi-annual dividends will accord with the custom of other corporations and prove, I think, satisfactory to all concerned.

Referring you to the report of the Superintendent and the Secretary's statement from the books of the Company, I am,

Respectfully,

A. BALDWIN,

President.

NEW ORLEANS, April 8th, 1885.

Mr. A. Baldwin, President New Orleans Water Works Company:

Dear Sir—On 15th June last, we began the use of the new system of boilers, and its performance has proved satisfactory. Therewith have also been adopted appropriate adjuncts, improvements, and system in details which, taken as a whole, places our pumping service fairly abreast of the average of similar service in the United States.

The principal portion of the pumping has, until recently, been done by the "old engines" working in connection with the Knowles Pump. These engines have seen their best days, and require frequent repairs. To continue to run them continuously, as heretofore, and without a thorough overhauling, would not be economical. Leaving as an open question the propriety and economy of compounding our large engine, I find it, all things considered, more economical to throw the main burden of the pumping upon it. Disconnected, one side of it will readily supply the city, and the other engines can be kept as a spare. Until recently it was deemed impracticable to use the main engine in the manner described. I have, under these circumstances, dispensed with the engineer and fireman assigned to the Knowles Pump.

The operation of the Works for the past year has been characterized by as close economy as has been consistent with the maintenance of the plant in good order.

Your administration has achieved an increase in revenue from private consumers, of some thirty per cent.; a decrease of water pumped annually, of about five hundred million gallons; a decrease in coal consumption of over twenty-five per cent., and a material reduction in general running expenses. The increase in revenue from private consumers during the past year

would have been much larger but for the unpropitious character of the weather during the greater part of that period.

The reduction of amount of water pumped during the year without loss of revenue, would indicate that waste is being checked to some extent, but the evil continues, and demands, and is receiving, constant attention.

It gives me pleasure to commend the faithfulness and zeal of the employees of the Company in all the branches of its service. They each and all feel a close personal identification with the Company. They make its interests their own, and I do not know of a single "eye servant" among them.

I herewith hand you the Record of Engines for the past year, and an inventory of materials, etc., on hand.

Respectfully,

L. H. GARDNER,

Superintendent.

ENGINE RECORD FOR THE YEAR APRIL 8, 1884, TO APRIL 8, 1885.

Month.	Gallons of Water Pumped.	Average Head in Feet.	Coal Consumed, Barrels of 180 Pounds. Pumping	Banking	Total.	Duty (Pounds Raised One Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb Coal.	Pounds of water evaporated with 1 lb Coal.	Per cent of Dry Ashes and Cinders.	Average of River below Bed Plate.	Supplies Consumed. Gals. Oil.	Lbs. Tallow	Pounds Packing Yarn.	Pounds Cotton Waste.
1884														
April 9-30..	145,578,400	50	.....	.....	1,518	22,220,422	533	.....	.....	4 ft.	18	140	27	35
May	216,259,592	53½	.....	.....	2,391	22,424,556	503	.....	.....	4 ft.6 in	28½	211	77	50½
June.....	208,535,648	53	.....	.....	2,147	23,849,140	540	.....	.....	6 ft.	28½	184	53	39½
July	241,809,778	56	.....	.....	2,402	26,124,182	559	.....	.....	9 ft.	26	253	38	56½
August	248,644,400	60	.....	.....	2.576	26,838,149	536	.....	.....	14 ft.	36½	251	29	56½
September	152,455,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	87,867,520	57	2,922	130	3,052	20,798,270	437	.....	6 %	15 ft.	42	267	31	62
October.....	139,072,000	66	1,811	.....	.....	23,381,427	425	.....	.....	.....	.....	.....	.....	.....
	76,225,340	33	654	86	2,551	17,808,776	647	.....	6 %	14 ft.	23	178	25	68½
November	123,282,000	67	1,599	.....	.....	23,952,508	428	.....	.....	.....	.....	.....	.....	.....
	71.191,476	34	614	85	2,298	18,268,828	644	.....	5½ %	15 ft.6 in	19	152	33	75
December.	122.316,500	66½	1,557	.....	.....	24,210,547	436	.....	.....	.....	.....	.....	.....	.....
	67,499,300	32½	539	84	2,180	18,861,531	696	.....	5½ %	14 ft.8 in	22	164	50	83
Jan., 1885..	112,593,620	54	1,260	.....	.....	22.389,407	496	.....	.....	.....	.....	.....	.....	.....
	63,781,972	26	494	55	1,809	15,557,348	718	8.75	5 %	6 ft.4 in	19¾	334	40	104½
February ..	101,514,000	57½	1,180	.....	.....	22,919,509	478	.....	.....	.....	.....	.....	.....	.....
	51,327,968	30	423	45	1,648	16,853,356	674	8.75	5 %	5 ft.6 in	21	310	5	99
March	109,572,500	59	1,417	.....	.....	21,112,252	429	.....	.....	.....	.....	.....	.....	.....
	62,241,444	30	508	51	1,976	17,019,404	680	8.50	5½ %	7 ft.6 in	25½	362	.....	107
April 1-8....	27,173,000	58½	343	.....	.....	21,486,928	441	.....	.....	.....	.....	.....	.....	.....
	13,669,220	30	100	13	456	18,895,242	757	8.75	5 %	7 ft.	6	93	.....	29
Totals.....	2,442,611,478	.....	.....	.....	27,004	.....	.....	.....	.....	.....	315½	2899	408	866

	Gals. Water.	Bbls. Coal.
1884-85	2,442,611,478	27,004
1883-84	2,759,027,884	27,039
1882-83	2,900,549,214	29,918
1881-82	2,948,347,134	30,743

1884-85 Collected for Water rates		$146,654 68
1883-84	" " "	128,337 21
1882-83	" " "	111,077 51
1881-82	" " "	99,964 70

Cost of Pumping, say Wages, Supplies and Coal, $19,740 38.

REMARKS.—All the Blanks are not filled in this record because the change in system of record from that previously existing was not complete throughout the year.

Cash Receipts for the Year ending and including April 8th, 1885.

Cash on hand April 8th, 1884	$	55,549 74
Cash received for water rates, April 9th, 1884, to April 9th, 1885		146,961 08
Cash received for pipes and materials sold and labor		1,809 16
Cash received for plumbers' licenses, etc.		43 75
Cash received for repairs, etc		869 43
Cash received for interest		565 85
Cash received for bonds sold		45,000 00
		$250,799 01

Cash Disbursements for the year ending and including April 8, 1885.

Pumping Service department. Wages and salaries	$ 9,012 25	
Pumping Service department Supplies	1,549 35	
Pumping Service department. Repairs	2,106 00	
		12,667 60
Improvements and Extensions department. Materials, etc	12,621 12	
Improvements and Extensions department. Disbursed for new boilers and settings	14,349 63	
		26,970 75
Hydrant Service department. Wages and salaries		9,194 44
Office Service department. Wages and salaries		5,102 20
Street Service department. Wages and salaries	5,455 28	
Street Service department. Materials and repairs	1,050 97	
Street Service department. Tools and fixtures	1,176 67	
		7,682 92
Water pipes, specials, etc., purchased		1,328 97
Consulting Engineer, (J. D. Cook)		501 00
Printing and advertising		65 50
Blank books and stationery		227 25
Rent office, balance of 1883, 1884	75 00	
Rent office for 1884, 1885	900 00	
For telephone	175 00	
		1,150 00
Keep of horse and buggy, and repairs		290 65
Interest on loans and Exchange		827 48
Matured coupons on bonds paid		23,925 00
Coal purchased		7,651 46
State taxes for 1884		5 979 79
Dividends paid		56,583 00
Water rates refunded		101 15
Miscellaneous and petty expenses		611 95
Cash on hand	89,885 40	
Petty cash on hand	52 50	
		89,937 90
		$250,799 01

Assets N. O. Water Works Company.

Invested Capital	$2,000,000 00
Cash on hand	89,937 90
Materials and Fixtures on hand	3,180 12
Coal on hand	3,743 74
Invested in Improvements and Extensions	395,239 39
Due by U. S. Custom House	600 02
Due by U. S. Mint	250 00
Deposited with N. O. Gas Light Co	10 00
	$2,492,961 17

Liabilities N. O. Water Works Company.

Capital Stock	$2,000,000 00
Bonds	395,000 00
Dividends unpaid	13,779 45
Coupons unpaid	3,180 00
Profit and Loss	81,001 72
	$2,492,961 17

Bills for Water Rates in course of collection, not included in above assets ..... $ 8,252 50

The above is a true and correct transcript from the books of the company.

A. BALDWIN,
President.

R. L. MACMURDO,
Secretary.

Sworn to and subscribed before the undersigned, a duly commissioned and qualified notary public in and for the Parish of Orleans, State of Louisiana, at New Orleans, this April 9th, 1885, as witness my hand and seal.

{ SEAL. }

A. S. BECK,
Notary Public.

OFFICE OF THE NEW ORLEANS WATER WORKS CO.,
NEW ORLEANS, April 9th, 1885.

At a meeting of the Board of Directors of this Company, held this day, a dividend of three dollars and fifty cents per share was declared to the stockholders of this date, payable on demand.

R. L. MACMURDO,
Secretary and Treasurer.

WORK DONE BY STREET SERVICE REPAIRS DEPARTMENT.

216 Leaks repaired on mains, and joints caulked.
3 Cracked pipes, with wrought iron sleeves and bolts.
30 Cracked pipes, tied.
42 Broken services tied.
12 Broken cement services tied.
14 Stop cocks dug for and found.
41 Service pipes cut and plugged.
20 Ferrules drawn from main pipes.
247 Leaking stop cocks repaired.
15 Stop cocks furnished with new screws.
247 Stop cocks, packing renewed.
494 Stop cocks, joints caulked.
207 Wooden Cased Fire Hydrants repaired
28 Under Ground Fire Hydrants repaired.
2 New Cypress Cases for Under Ground Fire Hydrants.
18 New Cypress Cases for High Fire Hydrants, with Hinges and Covers.
20 New Cypress Staves and New Hooks for High Fire Hydrant Cases.
26 Holly Fire Hydrants repaired.
8 Mathew Fire Hydrants repaired.
4 Boston Fire Hydrants repaired.
131 Leaks on Fire Hydrants repaired.
5 Fire Hydrants connected to Main pipe.
4 Broken Wooden Cased Fire Hydrants replaced.
1 Broken Philadelphia Fire Hydrant replaced.
1 Broken Mathew Fire Hydrant replaced by a Holly.
231 Joints caulked on Fire Hydrants.
231 Packings renewed on Fire Hydrants.
3053 Yards of Stone Pavement relaid.
541 Yards of Flag Pavement relaid.
866 Yards of Brick Pavement relaid.

4182

PRIVATE WORK DONE BY STREET SERVICE DEPARTMENT.

1 8 inch Stop Cock, furnished.
2 6 inch Stop Cocks, furnished.
1 4 inch Stop Cock, furnished.
1 8 inch Sleeve, furnished.
2 6 inch Saddles, furnished.
3 6 inch Quarter Bends, furnished.
1 6 inch One-eighth Bend, furnished,
1 4 inch Quarter Bend, furnished.
1 1 8x6 inch Tee Branch, furnished.
4 4x4 inch Tee Branches, furnished.
756 feet 4 inch Pipe, furnished.
193 feet 6 inch Pipe, furnished.
3 feet 8 inch Pipe, furnished.
4 4 inch Wood Plugs, furnished.
811 pounds of Pig Lead, furnished.
27 pounds of Packing Yarn, furnished.
10 pounds of Gum Packing, furnished.
12 New ⅝ Bolts and Nuts.
2 Cast Iron Frames and Covers, furnished.
2 Bingham & Morgan Round Frames and Covers, furnished.
2 Wooden Cases for Stop Cocks, furnished.
14 yards of Paving.

Private Work for Plumbers—

9 ½ inch Milwaukee Ferrules, furnished.
27 ⅝ inch Milwaukee Ferrules, furnished.
26 ¾ inch Milwaukee Ferrules, furnished.
69 holes drilled and tapped.
206 yards of Paving relaid.
6 yards of Flagging relaid.
10 yards of Bricking relaid.

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS.

3 Philadelphia Fire Hydrants.
2 Under Ground Fire Hydrants.
4 Holly Fire Hydrants.
2 Cast Iron Philadelphia Cases (require repairs).
9 Cast Iron Covers with Hinges for Wooden Cased Fire Hydrants.
23 Pieces 4 inch pipe for Raising Fire Hydrants.
1 3 inch Goose Neck.
5 4 inch Goose Necks.
75 Wrought Iron Bands for Wooden Cased Fire Hydrants.
10 Wrought Iron Screws without Clamps.
26 Wrought Iron Stirrups and Nuts.
21 Wrought Iron Rods for Wooden Cased Fire Hydrants.
4 Wrought Iron Rods for Philadelphia Fire Hydrants.
4 Wrought Iron Rods for Under Ground Fire Hydrants.
9 Copper Rods for Under Ground Fire Hydrants.
7 Brass Nuts for Under Ground Fire Hydrants.
3 Brass Hollow Screws for Under Ground Fire Hydrants.
88 Gum Valves—

For Holly Fire Hydrants—

10 Wrought Iron Brass Covered Screws.
1 Cast Iron Ferrule.
6 Cast Iron Valves.
8 Cast Iron Valve Seats.
10 Cast Iron Glands.
4 Cast Iron Top Covers.
24 ½ inch Bolts, and 24 ⅝ inch Bolts and Nuts.
6 Gum Valves.

For Mathew Fire Hydrants—

18 Cast Iron Top Nuts.
4 Brass Hollow Screws.
8 Gum Valves.
41 ½ inch Bolts and Nuts.
35 lbs. of ¼ inch Mixed Gum.

For Boston Gates—

9 6 inch Brass Screws.
12 8 inch Brass Screws.

INVENTORY OF MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

5 6 inch Iron Screws.
4 8 inch Iron Screws.

For Ludlow Gates—

2 6 inch Brass Screws.
4 8 inch Brass Screws.
12 6 inch Iron Screws.
23 8 inch Iron Screws.

For the Old Gates—

4 3 inch Iron Screws.
4 4 inch Iron Screws.
10 6 inch Iron Screws.
7 10 inch Iron Screws.
6 12 inch Iron Screws.
3 16 inch Iron Screws.
6 18 inch Iron Screws.
53 Unfinished Cast Iron Glands from 3 inch. to 12 inch.
39 Unfinished Cast Iron Glands from 16 inch. to 18 inch.
31 Finished Cast Iron Glands from 4 inch. to 8 inch.
7 Cast Frames and Covers for Street Gates.
3 Bingham & Morgan Round Frames and Covers for Street Gates.
73 ⅝ inch Bolts and Nuts.
40 lbs. ¾ inch Washers.

Private Fixtures—

2 ⅝ inch Milwaukee Ferrules.
87 ¾ inch Milwaukee Ferrules.
77 ½ inch Milwaukee Ferrules.
8 ¾ inch Boston Ferrules.
8 ⅝ inch Boston Ferrules.
2 Drilling Machines and Drills and Reamers and Taps, Scales, Vise and other Tools, say $100.

INVENTORY OF STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

2 Lengths of 48 inch Pipe.
6½ Lengths of 36 inch Pipe.
23½ Lengths of 30 inch Pipe.
2 Lengths of 24 inch Pipe.
3 Lengths of 20 inch Pipe.
2 Lengths of 18 inch Pipe.
4 Lengths of 16 inch Pipe.
27 Lengths of 12 inch Pipe.
4½ Lengths of 10 inch Pipe.
17 Lengths of 8 inch Pipe.
85 Lengths of 6 inch Pipe.
87 Lengths of 4 inch Pipe.
13 Lengths of 3 inch Pipe.

Specials—

2 36 inch Sleeves.
1 30 inch Sleeve.
1 24 inch Sleeve.
5 16 inch Sleeves.
6 12 inch Sleeves.
9 10 inch Sleeves.
5 8 inch Sleeves.
16 6 inch Sleeves.
10 4 inch Sleeves.
4 3 inch Sleeves.

Specials on hand—

1 16 inch ⅛ Bend.
1 8 inch ⅛ Bend.
4 6 inch ⅛ Bends.
2 30 inch ¼ Bends.
2 8 inch ¼ Bends.
5 6 inch ¼ Bends.
1 12 inch Bevel Bend.
20 4 inch ¼ inch Bends.

INVENTORY OF STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

Specials—

1 From 20 to 12 inch Reducing Pipe.
2 From 12 to 8 inch Reducing Pipes.
1 From 12 to 6 inch Reducing Pipe.
1 From 12 to 4 inch Reducing Pipe.
1 From 8 to 6 inch Reducing Pipe.
5 From 8 to 4 inch Reducing Pipes.
2 From 8 to 3 inch Reducing Pipes.
8 From 6 to 4 inch Reducing Pipes.
1 20 inch Fire Well.
2 Fire Well Covers.
1 20 inch Valve.
1 12 inch Valve.
2 10 inch Valves.
4 8 inch Valves.
5 8 inch Valves. Faced on one side.
1 6 inch Valve. Chapman Valve.
2 4 inch Valves. Chapman Valves.
1 4 inch Valve. Thompson & West.
1 30x8 inch four Way Branch.
1 20x10 inch four Way Branch.
1 16x12 inch four Way Branch.
5 16x8 inch four Way Branches.
5 16x6 inch four Way Branches.
3 12x8 inch four Way Branches.
4 12x6 inch four Way Branches.
5 8x8 inch four Way Branches.
8 8x6 inch four Way Branches.
1 8x4 inch four Way Branch.
8 6x6 inch four Way Branches.
6 4x4 inch four Way Branches.
3 36x8 inch three Way Branches.

INVENTORY OF STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

5 30x12 inch three Way Branches.
1 18x12 inch three Way Branch.
1 16x8 inch three Way Branch.
2 12x8 inch three Way Branches.
1 12x6 inch three Way Branch.
9 8x6 inch three Way Branches.
6 8x4 inch three Way Branches.
14 6x4 inch three Way Branches.
6 4x4 inch three Way Branches.
7 4x3 inch three Way Branches.

CLASSIFICATION OF WATER TAKERS.

Families	2593
Stores	556
Saloons, Restaurants and Clubs	274
Steam Factories, Cotton Presses, Breweries, Laundries, etc.	178
Business Offices	147
Stables	142
Groceries, with Cabarets	159
Factories and Labor Shops, without steam	142
Boarding Houses and Furnished Rooms	155
Churches, Schools and Halls	42
Engine Houses, Public Buildings, etc	46
Bakeries, without steam	42
Barbers	47
Public Squares and Fountains	5
Gas Engines	16
Laundries and Dyers, without steam	30
Hotels and Theatres	14
Railroads, Standpipes and Elevators	6
Oyster Shops	11
Various, not included above	33
Total	4638

NUMBER AND MAKE OF FIRE HYDRANTS IN USE.

	Above Canal St.	Below Canal St.	Total.
Wooden Case	330	366	696
Underground	79	54	133
Holly	68	62	130
Mathew	54	7	61
Philadelphia	29	26	55
Boston	2	2	4
Fire Wells	36	24	60
	598	541	1139

4173

EIGHTH

ANNUAL REPORT

OF THE

NEW ORLEANS

Water Works Company.

OFFICERS.

A. BALDWIN, - - - President.
L. H. GARDNER, - - Superintendent.
R. L. MACMURDO, - - - Secretary and Treasurer.

DIRECTORS.

A. BALDWIN, - By Stockholders.
J. R. BECKWITH, - "
H. ABRAHAM, - "
JAS. D. EDWARDS, - "
HON. J. V. GUILLOTTE, Mayor, Ex-officio.
HON. I. W. PATTON, City Treasurer, "

APRIL 9TH, 1886.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.—3474
1886.

ANNUAL REPORT.

NEW ORLEANS, April 8th, 1886.

To the Board of Directors New Orleans Water Works Company:

Gentlemen—In making this, my annual report, I have but little to add to the accompanying report of the Superintendent and statement of the Secretary.

During the past year the city has promptly paid our monthly bill for public water supply under our contract. This contract has been attacked in the courts by a self-appointed authority, styled a "Committee of One Hundred." Their petition was rejected by the lower court (Judge Henry L. Lazarus), and the Committee has appealed.

In December last the Supreme Court of the United States decided the case of this Company vs. R. E. Rivers. In affirming the exclusive right of the Company, the Court used the following language:

"The right to dig up and use the streets and alleys of New Orleans for the purpose of placing pipes and mains to supply the city and its inhabitants with water, is a franchise belonging to the State, which she could grant to such persons or corporations, and upon such terms as she deemed best for the public interest; and as the object to be attained was a public one, for which the State could make provision by legislative enactment, the grant of the franchise could be made with such exclusive privileges to the grantee in respect of the subject of the grant as in the judgment of the legislative department would best promote the public health and the public comfort or the protection of public and private property. Such was the nature of the grant to plaintiff, which not being at that time prohibited by the Constitution of the State, was a contract, the obligations of which cannot be impaired by subsequent legislation or by a change in her organic law."

The suit to decide the relations of the Company with the city in the matter of taxes and water supply for the years 1880-1884, is on appeal by us to the United States Supreme Court. The judgment appealed from makes the supply offset the taxes.

I recommend the continuance of the practice of paying dividends semi-annually, as one which has, as far as I can learn, met the approval of all our stockholders. And that they may be justified in a confidence in the regularity and uniformity of dividends, I suggest that you do not, now or hereafter, divide your total earnings, but reserve a balance either at the credit of profit and loss account or a sinking fund for redemption of bonds.

Respectfully,

A. BALDWIN,

President.

REPORT OF SUPERINTENDENT.

NEW ORLEANS, April 8th, 1886.

Mr. A. BALDWIN, President,
and Board of Directors New Orleans Water Works Company:

Gentlemen—There have been no occurrences or change of condition in the office department during the year worthy of note.

Of the work done during the year I report: repairs to check valve of the main engine, which gave way in June; new pistons for steam cylinders, old engine, in July; filling batture to a level with roadway at our river front, with a revetment to same, in September; repairs to suction pipe of old engine in November. This last was the most tedious and expensive of all the work during the year. I laid a three inch main on Gasquet street from Claiborne street to the Straight University in June. I am now replacing all dilapidated wooden cases on fire plugs with new ones. It is a work which has long been needed but which circumstances have postponed.

I invite your attention to the improved condition and appearance of the grounds at the pumping station.

The basins of the reservoir were cleaned in May, and over two feet of deposit each found in two of them. They were again cleaned in September, and an average of ten inches in all four was removed. A small crack along the floor of the west basins, coinciding with the line of the old rupture, causes a leak which I have not yet been able entirely and permanently to stop. Otherwise, the plant in all its details has been carefully maintained up to its best conditions, and needed repairs, small or great, have had prompt atten... I would emphasize this as bearing upon our relations with the city under our water supply contract. This contract calls for payment for 1139 fire

hydrants and fire wells at $60 per annum each. Last August the City Council ordered a count by the Department of Public Works, the result of which almost created a scandal in showing 123 less than our count. Upon a revision however, and even after rejecting a number of public hydrants from the count, the Commissioner reported eight more than the 1139 charged for. Our own revised count of fire hydrants, fire wells and blow-offs, is 1191.

During the past year one of our newspapers has repeatedly commented upon an insufficiency of water at fires. I have investigated each and every such complaint, and without exception this Company was free from blame. We have been made to appear responsible for want of supply in localities where we have no mains; for the inadequacy of a three-inch main to supply three steam fire engines within a length of 600 feet; for a poor delivery from hydrants while a large fire well was full open between them and the supplying main, and for the faults of firemen who, in haste or excitement, could not open a hydrant or fire-well. In more than one instance they have opened blow-offs and run water wastefully into canals beyond the reach of suction pipes; opened fire wells remote from the conflagration, and otherwise emulated the Irishman in the well-worn story who sawed off the limb on which he sat, between himself and the tree.

The fact is, that never in the history of the water supply of New Orleans has such an abundance been subject to demand. The pressure is maintained from 6 A. M. to 6 P. M. at a head of 60 feet. The night supply is from a reservoir of four million gallons capacity and delivered at a head of 30 feet.

Banked fires are maintained through the night, with engineers and firemen on duty, and in case of emergency the pumping machinery can be put in motion in less than five minutes. The ordinary reserve machinery in water works' practice is said to be sixty per cent. Ours is three times as great. To the extent

of our distribution and up to its capacity, no city on the continent can possibly have a better guarantee of a faithful and efficient water service and supply.

When you decide to lay any new mains or extend the distribution at all above Canal street, I beg to urge that you make the work comprehensive. This would, to my view, include a twelve-inch main up St Thomas street to Sixth street or to Louisiana avenue, and an eight-inch thence out to St. Charles street, together with a full cure of all the dead ends in the upper distribution, which would naturally fall in with the extension suggested. The most casual glance at the plan of existing condition will, I think, illustrate the propriety of the suggestion.

Except 985 feet of three-inch pipe, no extension of mains has been made. Extensions out Canal street and up St. Charles avenue have been proposed and agitated, but without practical results.

Several hydraulic elevators have been added, are working satisfactorily, and their use will probably increase rapidly as there is a growing disposition to abandon the use of gas engines in connection with elevators.

To all large consumers I am making rates far below our tariff and lower than the average either of the cities of the Mississippi Valley or of the United States. I am unable to report, however, any growing popularity or appreciation of water bills in consequence.

The working expenses of the Company have been the same in the total as last year.

There have been 270,000,000 gallons less water pumped. This is to some extent due to a check in the waste of consumers, but a great part of this reduction has hitherto been running through our imperfect check valves back into the river. These valves have been thoroughly repaired during the past year.

There has, during the year, been a further reduction in the amount of coal consumed, amounting to nearly 2500 barrels.

I herewith hand you the Engine Record for past year, and the usual inventories.

Respectfully,

L. H. GARDNER.

Superintendent.

ENGINE RECORD FOR THE YEAR APRIL 8, 1885, TO APRIL 8, 1886.

Month.	Gallons of Water Pumped.	Average Head in Feet.	Coal Consumed, Barrels of 180 Pounds. Pumping	Banking.	Total.	Duty (Pounds raised one Foot with 100ft. coal) Banking not incl'd.	Gallons pumped with 1 lb. of coal.	Pounds of water evaporated with 1 lb. coal	Per cent. of Dry Ashes & Cinders	Average of River below Bed Plate.	Gals. Oil.	Pounds Tallow.	Pounds Cotton Waste.	Total Pumped.
1885														
April 9-30	81,807,700	57½	970	.....	.....	22,481,880	469	.....	.....	.....	...	.....	.....	.....
	35,900,610	30	310	35	1,315	16,097,384	643	8.67	5.85	7 ft.	18	264	82.	117,708,340
May.....	113,062,500	57	1,309	.....	.....	22,803,416	479	.....	.....	.....	...	.....	.....	.....
	59,875,752	30	476	54	1,839	17,480,645	693	8.83	6.	6 ft.	24	372	110	172,938,252
June.....	120,545,040	59	1,375	.....	.....	23,956,135	486	.....	.....	.....	...	.....	.....	.....
	63,264,600	30	522	54	1,951	16,839,152	672	9.00	6.	7 ft.6 in	24	360	105	183,809,640
July.....	123,388,800	61	1,464	.....	.....	23,804,633	467	.....	.....	.....	...	.....	.....	.....
	66,664,124	30	560	58.	2,082	16,546,987	661	9.25	6.	9 ft.	27	409	113	190,052,924
August....	113,316,240	65½	1,338	.....	.....	24,661,857	451	.....	.....	.....	...	.....	.....	.....
	94,233,700	30	892	122	2,352	14,680,742	586	8.90	6.	14 ft.	39	364	129	207,549,940
Sept.....	122,842,850	71	1,538	.....	.....	26,341,699	443	.....	.....	.....	...	.....	.....	.....
	57,465,092	30	514	65	2,117	15,526,745	620	9.30	5.80	13 ft.	25	328	112	180,307,942
Oct.....	131,993 632	73	1,691	.....	.....	26,390,923	433	.....	.....	.....	...	.....	.....	.....
	60,789,072	30	520	76	2,287	16,219,013	648	9.60	5.50	15 ft.	28	348	118	192,732,704
ov.....	110,252,000	67	1,443	.....	.....	23,722,223	424	.....	.....	.....	...	.....	.....	.....
	63,822,370	30	585	74	2,102	15,135,883	605	8.80	6.25	14 ft.	24	328	108	174,074,370
Dec.....	118,365,000	65	1,528	.....	.....	23,524,488	430	.....	.....	.....	...	.....	.....	.....
	64,028,552	30	565	81	2,174	15,736,683	629	9 08	5.60	14 ft.4 in	26	354	110	182,393,552
Jan. 1886..	116,384,500	62	1,439	.....	.....	23,226,591	449	.....	.....	.....	...	.....	.....	.....
	76,454,418	30	684	89	2,212	15,526,700	620	9.20	6.	11 ft.	24	368	115	192,838,918
Feb.....	106,438,540	59½	1,273	.....	.....	23,054,560	464	.....	.....	.....	...	.....	.....	.....
	52,560,680	30	460	51	1.784	16,165,117	645	9.30	6.25	8 ft.8 in	23	332	101	159,999,220
March	118,970,880	58	1,360	.....	.....	23,498,813	485	.....	.....	.....	...	.....	.....	.....
	55,548,550	30	454	50	1,864	16,990,546	679	8.75	6.25	7 ft.	18	346	115	174,519,430
April 1-8..	28,525,500	59	345	.....	.....	22,566,330	458	.....	.....	.....	...	.....	.....	.....
	11,848,500	30	95	13	453	17,235,493	690	8.	6.50	7 ft.	6	92	28	40,374,000
Totals & Averages.	2,169,299,232	62	23,710	822	24,532	23,833,349	457	9.	6.	10	306	4265	1346	2,169,299,232
		30				16,167,776	646							

OTHER DETAILS OF NEW ORLEANS WATER WORKS COMPANY.

Population of city, census of 1880, 216,000. Present estimated population, 230,000.

Stock Company, 20,000 shares of $100 each.

Source of supply, Mississippi river.

Mode of supply, intermittent.

Pump direct twelve hours, and to reservoir five hours.

Engines: One pair Beam Condensing Engines, Allaire Works, N. Y., 1847, one pair Beam Condensing Engines, Novelty Works, N. Y., 1860, and one Knowles horizontal compound.

Capacity, 10,000,000, 20,000,000 and 4,000,000 gallons in twenty-four hours, respectively.

Coal used, Pittsburg. Average cost thirty-eight cents per barrel of 180 lbs., or say $4 22 per ton of 2000 lbs., delivered.

Average dynamic head against which pumps work, is sixty for high service and thirty for low service.

Distribution. Pipes laid (all cast iron) to date, say seventy-one miles, as follows:

3 inch,	27,660 ft.	10 inch,	23,600 ft.	20 inch,	2,300
4 "	67,650 ft.	12 "	8,375 ft.	24 "	2,400
6 "	91,278 ft.	16 "	21,175 ft.	30 "	16,100
8 "	94,725 ft.	18 "	16,400 ft.	36 "	3,300

Private services (nearly all connections are of lead pipe), 12,053, of which 4400 are in use.

Main stop cocks or gates	540
Fire hydrants, fire wells and blow offs	1,191
of which the city pays for 1139 at $60 each per annum.	
Cost of Works, April 8, 1878, represented by stock	$2,000,000 00
Cost of improvements and extensions since	397,000 00
Bonded debt	395,000 00
Rate of interest 6 per cent. Payable semi-annually.	
Market value of stock (April 1, 1886)	67 00
Market value of bonds	114 00

Other items of information called for by form of Report suggested by the New England Water Works Association will, as far as our surroundings permit, be found in the Engine Record and statement of the Treasurer.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST TWO YEARS.

MEAN TEMPERATURE.

	1884.	1885.	1886.
January,	47	52	39
February,	61	53	42
March,	65	58	58
April,	68	70	
May,	76	74	
June,	79	82	
July,	85	83	
August,	82	75	
September,	81	72	
October,	74	56	
November,	60	51	
December,	59	46	

RAINFALL.

	1884.	1885.	1886.
January,	4.35	9.70	7.53
February,	3.16	2.39	1.96
March,	8.24	6.99	8.41
April,	6.48	3.67	
May,	4.33	5.77	
June,	8.60	3.30	
July,	4.12	6.15	
August,	.87	4.25	
September,	3.12	13.55	
October,	5.60	.56	
November,	3.13	3.47	
December,	8.01	4.38	
Total,	60.01	64.18	

CASH RECEIPTS FOR THE YEAR ENDING AND INCLUDING APRIL 8TH, 1886.

Cash on hand April 8th 1885	$ 89,937 90
Cash received for water rates, from April 9th, 1885, to April 8th, 1886, inclusive	187,468 33
Cash received for materials sold and labor	2,361 17
Cash received for plumbers' licenses, etc	30 00
Cash received for ashes sold	28 80
	$279,826 20

CASH DISBURSEMENTS FOR THE YEAR ENDING AND INCLUDING APRIL 8TH, 1886.

Pumping Service department:		
Wages and salaries	$ 7,169 14	
Supplies	1,658 03	
Repairs	3,708 11	
		$12,535 28
(Coal consumed, 8,797 10.)		
Improvements and Extensions department:		
Materials, Labor, etc		2,605 10
Hydrant Service department:		
Wages and salaries		8,874 22
Office Expenses. Wages and salaries		7,476 47
Street Service department:		
Wages and salaries	5,753 97	
Materials and repairs	1,203 27	
		6,957 24
Water pipes, specials, etc., purchased		1,329 10
Printing and advertising, blank books and stationery		205 70
Rent of office for one year		900 00
Rent of telephones for one year		226 00
Keep of horse and buggy and repairs		300 00
Matured coupons paid		20,415 00
Coal purchased		6,828 94
State taxes for 1885		4,870 71
City taxes for 1885		20,619 37
Dividends paid		116,434 45
Water rates refunded		958 57
Miscellaneous and petty expenses		488 75
Attorneys' fees and court costs		6,414 40
Interest account, balance of account		457 65
Cash in New Orleans National Bank	60,841 15	
Petty cash on hand	88 10	
		60,929 25
		$279,826 20

ASSETS N. O. WATER WORKS COMPANY.

Invested Capital	$2,000,000 00
Cash on hand	60,929 25
Materials and Fixtures on hand	3,531 54
Coal on hand	1,674 59
Due by U. S. Custom House	600 02
Due by U. S. Mint	250 00
Due by Illinois Central Railroad Company	700 00
Deposited with N. O. Gas Light Co	10 00
Invested in Improvements and Extensions	397,207 32
	$2,464,902 72

4175

LIABILITIES N. O. WATER WORKS COMPANY.

Capital Stock	$2,000,000 00
Bonds	395,000 00
Dividends unpaid	7,321 00
Coupons unpaid	6,465 00
Profit and Loss	56,116 72
	$2,464,902 72

Bills for Water Rates in course of collection, not included in above assets 10,325 57

The above is a true and correct transcript from the books of the company.

A. BALDWIN,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before the undersigned, a duly commissioned and qualified notary public in and for the Parish of Orleans, State of Louisiana, this 12th day of April, A. D., 1886.

SEAL

A. S. BECK,
Notary Public.

OFFICE OF THE NEW ORLEANS WATER WORKS CO.,
NEW ORLEANS, April 9th, 1886.

At a meeting of the Board of Directors of this Company, held this day, a semi-annual dividend of two dollars per share was declared, payable to the stockholders of this date, on and after Tuesday, April 13th, 1886.

R. L. MACMURDO,
Secretary.

WORK DONE AND MATERIALS USED IN STREET SERVICE DEPARTMENT.

167 Leaks repaired on mains, and joints caulked.
4 Cracked pipes replaced with new pipes.
2 Cracked pipes repaired with wrought iron sleeves and bolts.
19 Cracked pipes tied.
2 Broken cement pipes tied.
10 Broken service pipes tied.
3 Stop cocks dug for and found.
9 Service pipes cut and plugged.
10 Ferrules drawn from main pipe.
2 Ferrules replaced.
332 Leaking stop cocks repaired.
44 Stop cocks furnished with new screws.
376 Stop cocks, packing renewed.
508 Stop cocks, joints caulked.
114 Wooden Cased Fire Hydrants repaired.
7 Philadelphia Fire Hydrants repaired.
13 Under Ground Fire Hydrants repaired.
2 New Cypress Cases for Under Ground Fire Hydrants.
30 New Cypress Cases for High Fire Hydrants, with Hinges and Covers.
36 Cypress Staves and New Hooks for High Fire Hydrant Cases.
13 Holly Fire Hydrants repaired.
8 Mathew Fire Hydrants repaired.
1 Boston Fire Hydrant repaired.
9 Leaks on Fire Hydrants repaired.
294 Joints caulked on Fire Hydrants.
1407 lbs. Pig Lead.
423 lbs. Packing Yarn.
1004 Packings renewed on Fire Hydrants.
3136 Yards of Stone Paving relaid.

WORK DONE AND MATERIALS USED IN STREET SERVICE DEPARTMENT—Continued.

789 Yards of Flagging relaid.

577 Yards of Bricking relaid.

3 Wooden Cypress Cases for main stop cocks.

3 Wooden Cypress Frames for main stop cocks.

3 Bingham & Morgan Round Frames and Covers for main stop cocks.

114 Rods for High Fire Hydrants.

7 Rods for Philadelphia Fire Hydrants.

2 Rods for Under Ground Fire Hydrants.

13 Copper Rods for Under Ground Fire Hydrants.

134 Iron Screws, Brass Nuts and Clamps for Fire Hydrants.

268 Iron Stirrups and Nuts for Fire Hydrants.

268 Cast Valve Flanges for Fire Hydrants.

134 Gum Valves for Fire Hydrants.

For repairs of Holly Hydrants.

13 Wrought Iron Screws Covered with Brass.

13 Cast Iron Valves.

13 Cast Iron Valve Seats.

2 Cast Iron Covers.

52 ½ inch Bolts.

13 Gum Valves.

For Mathew Fire Hydrants.

2 Cast Iron Top Nuts.

8 Gum Valves.

20 ¼ inch Bolts and Nuts.

4 3 inch Iron Screws for Street Mains.

7 4 inch Iron Screws for Street Mains.

7 6 inch Iron Screws for Street Mains.

8 8 inch Iron Screws for Street Mains.

9 10 inch Iron Screws for Street Mains.

3 16 inch Iron Screws for Street Mains.

3 18 inch Iron Screws for Street Mains.

WORK DONE AND MATERIALS USED IN STREET SERVICE DEPARTMENT—Continued.

1 6x4 inch Tee Branch.
1 3x3 inch Tee Branch.
1 12x18 inch four Way Branch.
1 4x3 inch Reducing Pipe.
1 12 inch quarter Bend.
4 4 inch quarter Bends.
3 4 inch eighth Bends.
1 4 inch Chapman Valve.
1 4 inch Saddle.
2 8 inch Sleeves.
1 4 inch Sleeve.
1 3 inch Sleeve.
1 3 inch Goose Neck.
1 10 inch Wrought Iron Sleeve.
1 30 inch Wrought Iron Sleeve.
20 ¾ inch Bolts and Nuts.
25 lbs. of ¾ inch Pure Gum Packing.
1 Cast Iron Frame and Cover for Stop Cock.
1 Cypress Case for Stop Cock.
1 Wooden Case Fire Hydrant.
1 Wooden Case for Fire Hydrant.

PRIVATE WORK AND MATERIALS USED.

2 4 inch Saddles.
1 8 inch Saddle.
1 3 inch quarter Bend.
7 4 inch quarter Bends.
2 4 inch eighth Bends.
5 6 inch quarter Bends.
1 3 inch Valve.
3 4 inch Valves.
1 8 inch Valve.
2 3 inch Sleeves.
1 6 inch Sleeve.
1 3x3 inch Tee Branch.
1 6x3 inch Tee Branch.
1 6x4 inch Tee Branch.
1 8x6 inch Tee Branch.
105 Feet 3 inch Pipe.
512 Feet 4 inch Pipe.
280 Feet 6 inch Pipe.
24 Feet 8 inch Pipe.
1 4 inch Goose Neck.
1126 lbs. Pig Lead.
36 lbs. Packing Yarn.
12 lbs. Gum Packing.
3 Cast Iron Frames and Covers for Stop Cocks.
1 Bingham & Morgan Frame and Cover for Stop Cock.
3 Cypress Cases for Stop Cocks.
12 $\frac{5}{8}$ inch Bolts and Nuts.
35 yds. Paving.
16 yds. Flagging.
8 $\frac{1}{2}$ inch Milwaukee Ferrules.
16 $\frac{3}{4}$ inch Milwaukee Ferrules.
16 1 inch Milwaukee Ferrules.
40 Holes Drilled and Tapped.
38 Ditches Dug.
154 yds. of Paving Relaid.

MATERIAL ON HAND FOR STREET SERVICE REPAIRS.

	For Boston Gates.	
9	6 inch Brass Screws	$ 36 00
12	8 inch Brass Screws	54 00
4	6 inch Iron Screws	16 00
4	8 inch Iron Screws	20 00
	For Ludlow Gates.	
2	6 inch Brass Screws	8 00
4	8 inch Brass Screws	20 00
12	6 inch Iron Screws	72 00
23	8 inch Iron Screws	149 50
	For the Old Gates.	
10	3 inch Iron Screws	32 50
10	4 inch Iron Screws	35 00
15	6 inch Iron Screws	57 00
12	8 inch Iron Screws	48 00
7	10 inch Iron Screws	32 20
6	12 inch Iron Screws	30 00
49	Unfinished Cast Iron Glands from 3 inch. to 12 inch.	24 50
36	Unfinished Cast Iron Glands from 16 inch. to 18 inch.	16 00
28	Finished Cast Iron Glands from 4 inch. to 8 inch	14 00
8	Cast Iron Frames and Covers for Street Gates	96 00
5	Bingham & Morgan Round Frames and Covers for Street Gates	35 00
36	⅝ inch Bolts and Nuts	5 40
81	lbs. ¾ inch Iron Washers	5 25
34	Packing Box Bolts and Nuts	12 00
5	Philadelphia Fire Hydrants	125 00
7	Wooden Cased Fire Hydrants	175 00
3	Under Ground Fire Hydrants	45 00
4	Holly Fire Hydrants	132 00
2	Cast Iron Cases for Philadelphia Fire Hydrants	6 00
3	Cypress Cases for Fire Hydrants finished	24 00
77	Cypress Staves for Fire Hydrant Cases	9 65
50	Cast Iron Covers with Hinges for Fire Hydrant Cases	150 00
38	Hooks for Wooden Case Covers	19 00
70	Wrought Iron Bands for Fire Hydrant Cases	35 00
	Carried Forward	$1539 00

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Cont'd.

	Brought Forward	$1539 00
5	4 inch Goose Necks for Fire Hydrant Cases	40 00
23	Pieces 4 inch Pipes for Raising Fire Hydrant Cases	103 50
36	Wrought Iron Screws without Clamps	90 00
90	Wrought Iron Stirrups and Nuts	9 00
1	Wrought Iron Rod for Wooden Cased Fire Hydrant	50
8	Wrought Iron Rods for Philadelphia Fire Hydrants	3 60
8	Copper Rods for Under Ground Fire Hydrants	4 00
7	Brass Nuts for Under Ground Fire Hydrants	4 00
118	Gum Valves	118 00
	For Holly Fire Hydrants.	
5	Wrought Iron Screws Covered with Brass	5 00
200	Cast Iron Ferrules to Cover Screws	10 00
5	Cast Iron Valves	15 00
11	Cast Iron Valve Seats	44 00
7	Cast Iron Glands	7 00
1	Cast Iron Top Covers	10 00
19	½ inch Bolts, and 15 ⅝ inch Bolts and Nuts	1 90
3	Gum Valves	1 50
	For Mathew Fire Hydrants.	
16	Cast Iron Top Nuts	24 00
4	Brass Hollow Screws	16 00
95	Gum Valves	95 00
60	½ inch Bolts and Nuts	6 00
31	lbs. of ⅝ inch Mixed Gum	8 06
47	lbs. of ¾ inch Pure Gum	36 66
8	yds. of Rubber Cloth	8 00
40	lbs. of Packing Yarn	6 80
225	lbs. of Pig Lead	14 65
	Drilling Machine, Scales and Tools	150 00
68	½ inch Milwaukee Ferrules at $0 87	59 16
176	⅝ inch Milwaukee Ferrules at 1 10	193 60
70	¾ inch Milwaukee Ferrules at 1 60	112 00
8	⅝ inch Boston Ferrules at $1 10	8 80
8	¾ inch Boston Ferrules at 1 60	12 80
94	Iron Stop Cock Frames and Covers at $0 90	84 60
		$2842 13

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

2 Lengths of 48 inch Pipe.
6½ Lengths of 36 inch Pipe.
23½ Lengths of 30 inch Pipe.
2 Lengths of 24 inch Pipe.
3 Lengths of 20 inch Pipe.
2 Lengths of 18 inch Pipe.
4 Lengths of 16 inch Pipe.
27 Lengths of 12 inch Pipe.
4½ Lengths of 10 inch Pipe.
45 Lengths of 8 inch Pipe.
60 Lengths of 6 inch Pipe.
106 Lengths of 4 inch Pipe.
6 Lengths of 3 inch Pipe.
2 36 inch Sleeves.
1 30 inch Sleeve.
1 24 inch Sleeve.
5 16 inch Sleeves.
6 12 inch Sleeves.
9 10 inch Sleeves.
4 8 inch Sleeves.
16 6 inch Sleeves.
8 4 inch Sleeves.
5 8 inch quarter Bends.
9 6 inch quarter Bends.
10 4 inch quarter Bends.
2 3 inch quarter Bends.
2 30 inch eighth Bends.
2 8 inch eighth Bends.
5 6 inch eighth Bends.
16 4 inch eighth Bends.
1 12 inch Bevel Bend.
1 From 20 to 12 inch Reducing Pipe.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

2 From 12 to 8 inch Reducing Pipes.
1 From 12 to 6 inch Reducing Pipe.
1 From 8 to 6 inch Reducing Pipe.
5 From 8 to 4 inch Reducing Pipes.
2 From 8 to 3 inch Reducing Pipes.
8 From 6 to 4 inch Reducing Pipes.
1 20 inch Fire Well.
2 Fire Well Covers.
1 20 inch Valve.
1 12 inch Valve.
2 10 inch Valves.
1 8 inch Valves.
3 8 inch Valves. Faced on one side.
3 6 inch Valves.
1 4 inch Valves.
1 4 inch Valve. Thompson & West.
1 30x8 inch four Way Branch.
1 20x10 inch four Way Branch.
1 16x12 inch four Way Branch.
5 16x8 inch four Way Branches.
5 16x6 inch four Way Branches.
5 12x8 inch four Way Branches.
4 12x6 inch four Way Branches.
5 8x8 inch four Way Branches.
8 8x6 inch four Way Branches.
1 8x4 inch four Way Branch.
7 6x6 inch four Way Branches.
6 4x4 inch four Way Branches.
5 30x12 inch three Way Branches.
1 18x12 inch three Way Branch.
1 16x8 inch three Way Branch.
2 12x8 inch three Way Branches.
1 12x6 inch three Way Branch.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

9 8x6 inch three Way Branches.
6 8x4 inch three Way Branches.
2 8x3 inch three Way Branches.
7 6x6 inch three Way Branches.
12 6x4 inch three Way Branches.
8 4x4 inch three Way Branches.
6 4x3 inch three Way Branches.
2 3x3 inch three Way Branches.

NINTH

ANNUAL REPORT

OF THE

NEW ORLEANS

Water Works Company.

OFFICERS.

J. D. HOUSTON, - - , President.
A. BALDWIN, - - - Vice President.
L. H. GARDNER, - - Superintendent.
R. L. MACMURDO, - - Secretary and Treasurer.

DIRECTORS.

J. D. HOUSTON, - By Stockholders.
A. BALDWIN, - "
H. ABRAHAM, - "
R. E. CRAIG, - - Elected April 11, 1887.
HON. J. V. GUILLOTTE, Mayor, Ex-officio.
HON. I. W. PATTON, City Treasurer, Ex-officio.

APRIL 11TH, 1887.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.—3829
1887.

ANNUAL REPORT.

NEW ORLEANS, April 8th, 1887.

To the Board of Directors New Orleans Water Works Company:

Gentlemen—It is required by our charter that this formal report should be made. It should embrace the more important or interesting points of the history of the Company in the review of the year. The report of the Superintendent will give the current history of the work done by the Company, and that of the Secretary, the usual financial statement.

It is known to our stockholders and the public that the United States Supreme Court has decided favorably upon the monopoly or exclusive feature of our charter. Under this decision, and with your sanction, I have applied for and secured injunctions against two large consumers who have been using private supply pipes from the river to their premises, as a first step towards our practical enjoyment of the decision referred to.

Several disastrous fires have occurred recently. In this connection this Company has been called before a committee of the City Council to answer a construed charge of an inadequate public water supply. The Chief of the Fire Department has certified that, as far as our mains extend and fire hydrants are established, the supply for the extinguishment of fires is adequate. I called the attention of the committee of the Council to the fact that this Company had, during the past year, laid some two miles of pipe along two of our most popular avenues, without placing any fire hydrants on the line, and that we were ready, under our contract, to place such a fire protection on the line when so instructed by the city. I also authorized a member of the committee to say to the Council that our Company

would, at its own cost, place a fire hydrant on each square of these new mains, and neither expect nor demand payment for the service until 1888. I have received no answer to the proposal.

There is no city in the United States where facility for extinguishing fires is, to a nicety, adjusted to the circumstances and location of every occurring fire within its municipal boundary. It is not to be expected. Something must be left to an intelligent fire department in adjusting circumstances to the need.

The extension of our mains and increase in the number of fire hydrants is limited only by the demand. The pressure at which we deliver our supply is above the average of the cities of the United States, and the cost to the city for its public supply is below a similar average, whether the supply is furnished by a city department or by a private company. This is a bold but correct statement which the public should have.

Charter requirements and the terms of contract with the city have been fully complied with by our Company during the year, and, to say the least, its affairs and interests continue to be in a prosperous condition.

Referring your attention to the following department reports, I am,

Respectfully,

J. D. HOUSTON,
President.

In Memoriam.

NEW ORLEANS, April 6th, 1887.

At a meeting of the Board of Directors of the New Orleans Water Works Company held this day, it was unanimously

Resolved, That this Board desires to express the profound regret of its members in the loss of their late associate, Col. JAMES D. EDWARDS, a gentleman whose qualities as a friend, whose ability as a business man, and as one of a Board of Managers were such as to call forth from all his associates encomiums of praise. To these we add our tribute to his memory, and direct that this resolution be spread upon the minutes and printed in the Annual Report.

R. L. MACMURDO,
Secretary.

REPORT OF SUPERINTENDENT.

NEW ORLEANS, April 11, 1887.

Mr. J. D. HOUSTON, President,
and Board of Directors New Orleans Water Works Company:

Gentlemen—Aside from the usual current care and maintenance of the machinery and plant, perhaps the most important work of the past year was laying the following extensions to our main distribution. This work comprised the following:

360 feet 3-inch pipe on Philip street, from Chestnut to Coliseum, in June.

1700 feet 3-inch pipe on Dorgenois street, from Esplanade avenue to St. Philip street, including a short extension from same on Hospital street, laid in September.

500 feet 3-inch pipe from Foucher street, on Camp to Antonine street, for the Fink Asylum, laid in September.

2075 feet 8-inch pipe on Louisiana avenue, from Magazine street to St. Charles avenue, laid in October.

5062 feet 8-inch pipe on St. Charles avenue, from Sixth street to Napoleon avenue, laid in October.

3633 feet 6-inch pipe on St. Charles avenue, from Napoleon avenue to upper side of Peters avenue, laid in December.

To the record of our mains is to be added an extension made in 1882, and not noted on plan of distribution, say 305 feet of 4-inch pipe on Coliseum street, from Third to Fourth street, and 368 feet on Fourth street, between Coliseum and Prytania.

The buildings at the pumping station received a coat of metallic paint in May. A new shed in rear of boiler room was erected in July.

Filled batture front in August.

A full and thorough flushing of the whole distribution was made in July. This work was independent of the monthly examination and blow-off of fire hydrants.

A complete examination of gates, or main stop cocks, was made in August, and again in January.

A gradual improvement of the grounds about the pumping station continues.

The west pair of basins have given trouble during the year by leaks. Having tried several means for closing the cracks without much expense, I have now on trial the experiment of using hot tar thickened with lime. At the moment of writing this report the leaks are virtually stopped.

I have felt encouraged to try again the use of meters on large consumers. One make or pattern was experimented with by this Company several years ago, and its use abandoned. The impression then left was that this experience would follow the adoption of any pattern or make of meter. Subsequent experience is more encouraging. I will be able to report in another year on the probable practicability of the system with us, and sincerely hope to be able to report favorably.

The work in street department has been done promptly, attention being given by preference to repairs of fire hydrants. The complaint book of the department is virtually clear and all work well up to date. The 30-inch main on Delta street, laid in a trench of refuse, shavings, etc., and now overlaid by railroad tracks, continues to require occasional repairs to leaking oints. As these repairs are made I block the pipe and ram a firm bed of river sand beneath it, and hope in the course of time to give the whole line a good foundation.

The main engine is in good order. The old engine is used but seldom, and is in fair order.

The Knowles pump requires some slight repairs.

We have pumped some forty million gallons in excess of last year, which being considered, the coal consumption is the same as that of last year.

The collected revenues of the Company are slightly in excess of the previous year, with a larger value of unpaid water bills in course of collection.

The working expenses have been less than in previous years. I append comparative statement thereof, and of water rates collected in previous years, to which I invite your attention. The Engine Record for the year and the usual documents accompanying my report are herewith submitted.

Respectfully,

L. H. GARDNER,
Superintendent.

WATER RATE REVENUES OR COLLECTIONS FROM ORIGINAL ORGANIZATION OF WATER WORKS, AND FOR FIFTY YEARS.

To January,	1837	$ 8,816 00	
"	1838.	17,027 00	
"	1839..	27,938 00	
"	1840..	34,622 00	
"	1841..	44,927 00	
"	1842..	49,944 00	
"	1843..	49,796 00	
"	1844..	56,687 00	
"	1845..	58,263 00	
"	1846..	62,866 00	
"	1847..	70,685 00	
"	1848..	70,342 00	
"	1849..	70,562 00	
"	1850..	89,819 00	
"	1851..	93,251 00	
"	1852..	101,989 00	
"	1853..	110,002 00	
"	1854..	111,555 00	
"	1855..	115,935 00	
"	1856..	122,406 00	
"	1857..	126,099 00	
"	1858..	128,803 00	
"	1859..	135,318 00	
"	1860.	145,661 00	
"	1861..	145,643 00	
To January,	1862..	$126,278 00	
"	1863..	99,365 00	
"	1864..	113,679 00	
"	1865..	132,233 00	
"	1866..	165,939 00	
"	1867..	181,280 00	
"	1868..	155,023 00	
"	1869..	143,293 00	
To Oct.,	1870-1871..	145,926 00	
"	1872..	132,626 00	
"	1873..	125,904 00	
"	1874..	113,146 00	
"	1875..	100,742 00	
"	1876..	90,015 00	
"	1877..	90,148 00	
To Ap'l,	1878-1879..	99,717 00	
"	1880..	91,339 00	
"	1881..	83,421 00	
"	1882..	99,930 00	
"	1883..	111,077 00	
"	1884..	127,228 00	
"	1885..	146,961 00	
"	1886..	187,468 00	
"	1887..	188,546 00	

COMPARATIVE TABLE OF WORKING EXPENSES OF COMPANY SINCE ITS ORGANIZATION.

Year ending	Pumping Service	Hydrant Service	Office Expenses	Street Service	Total
April, 1879....	$21,968 00	$5,675 00	$10,660 00	$6,562 00	$44,865 00
" 1880....	23,640 00	5,407 00	10,236 00	5,134 00	44,417 00
" 1881....	24,184 00	5,479 00	16,622 00	3,648 00	52,933 00
" 1882....	23,792 00	5,738 00	20,179 00	4,296 00	54,005 00
" 1883....	21,067 00	6,794 00	5,967 00	5,395 00	39,223 00
" 1884....	21,880 00	8,393 00	6,539 00	4,926 00	41,738 00
" 1885....	20,338 00	7,716 00	6,301 00	5,456 00	39,811 00
" 1886....	18,103 00	7,881 00	8,220 00	5,922 00	40,126 00
" 1887....	16,997 00	7,215 00	8,741 00	4,837 00	37,790 00

ENGINE RECORD FOR THE YEAR APRIL 8, 1886, TO APRIL 8, 1887.

Month	Gallons of Water Pumped	Average Head in Feet	Coal Consumed, Barrels of 180 Pounds: Pumping	Banking	Total	Duty (Pounds raised one Foot with 100 lb. coal) Banking not included	Gallons pumped with 1 lb. of coal	Pounds of water evaporated with 1 lb of coal	Per cent. of Dry Ashes & Cinders	Average of River below Bed Plate	Gals. Oil	Pounds Tallow	Pounds Cotton Waste	Total Pumped
1886														
April 9-20	77,693,000	60	872			24,747,925	494							
	32,719,392	30	251	44	1,167	18,111,483	723	8.75	6.	5 ft. 5 in	16½	260	79	110,412,392
May	117,618,500	56	1,252			24,360 330	521							
	57,778,680	30	402	57	1,711	19,041,611	784	8.90	5.75	4 ft. 5 in	22	352	111	175,397,180
June	116,965,000	57	1,276			24,196,180	509							
	54,564,782	30	395	45	1,716	19,174,309	766	8.65	6.	5 ft. 9 in	22½	344	108	171,529,782
July	135,995,336	65	1,643			24,914,860	459							
	65,005,940	30	510	66	2,219	17,717,305	707	8.53	6.	12 ft.	26	360	113	201,001,276
August	136,336,500	66	1,691			24,661,539	447							
	76,415,380	30	613	74	2,378	17,318,050	691	8.64	5.50	14 ft 8 in	22	352	109	212,751,880
Sept	137,033,000	66	1,789			23,417,710	425							
	72,038,070	30	617	73	2,479	16,208,565	648	8,52	5 50	15 ft. 6 in	24	356	119	209,071,070
Oct	132,050,000	67	1,671			24,530,212	439							
	68,973,262	30	547	120	2,338	16,203,860	647	8 59	5.75	15 f. 10 in	24	360	125	201,023,262
Nov	130,885,580	68	1,759			23,430,502	413							
	62,611,500	30	540	75	2,374	16,116,663	644	8.52	6.	16 ft. 8 in	24	352	130	193,497,080
Dec	127,236,500	67	1,687			23,402,637	418							
	61,707,250	30	522	77	2,286	16,424,632	656	8 73	5.50	15 ft. 4 in	23	368	127	188,943,750
Jan. 1887	118,829,196	67	1,594			23,135,672	403							
	61,749,388	30	544	84	2,222	15,781,100	630	8,56	5.50	15 ft. 3 in	25	378	127	180,578,584
Feb	111,611,370	64	1,358			24,365,515	456							
	45,789,500	30	370	54	1,782	17,176,214	686	8.54	5.50	9 ft. 7 in	25	326	117	157,400,870
March	118,376,500	57	1,412			22,137,616	463							
	46,897,984	30	365	51	1,828	17,859,780	713	8.40	6.	4 ft. 8 in	25	352	124	165,274,484
April 1-8	30,600,440	57	352			22,926,197	483							
	11,593,660	30	82	13	447	19,583,885	783	8.31	6.	4 ft. 4 in	6	92	32	42,194.100
Totals & Averages.	2,209,075,710	63 30	24,114	833	24,947		456 698	8.59	5.75		285	4252	1421	2,209,075,710

417

LOCATION OF FIRE WELLS AND BLOW-OFFS, SHOWING THE NUMBER AND LOCATION OF FIRE WELLS AND BLOW-OFFS.

1. Corner Front and Common streets.
2. Corner Front and Poydras streets.
3. Corner Front and Girod streets.
4. Corner Front and Julia streets.
5. Corner Peters and Terpsichore streets.
6. Corner Peters and Robin streets.
7. Corner Peters and Race streets.
8. Corner Tchoupitoulas and Canal streets.
9. Corner Tchoupitoulas and Delord streets.
10. Corner Tchoupitoulas and Hunter streets.
11. Corner Tchoupitoulas and Robin streets.
12. Corner Annunciation and St. Thomas streets.
13. Corner Annunciation and Robin streets.
14. Corner Annunciation and Richard streets.
15. Corner Magazine and Gravier streets.
16. Corner Magazine and Lafayette streets.
17. Corner Magazine and St. Mary streets.
18. Corner Magazine and Josephine streets.
19. Corner Magazine and Jackson streets.
20. Corner Magazine and Washington streets.
21. Corner Camp and Julia streets.
22. Corner Coliseum and St. Andrew streets.
23. Corner Prytania and Sixth streets.
24. Corner Prytania and Toledano streets.
25. Corner St. Charles and Commercial Alley.
26. Corner St. Charles and St. Andrew streets.
27. Corner Carondelet and Poydras streets.
28. Corner Carondelet and Jackson streets.
29. Corner Euterpe and Dryades streets.

LOCATION OF FIRE WELLS AND BLOW OFFS—Continued

30. Corner Canal and Camp streets.
31. Corner Canal and Rampart streets.
32. Corner Canal and Claiborne streets.
33. Corner Common and Liberty streets.
34. Corner Felicity Road and Rampart street.
35. Corner Felicity Road and Howard street.
36. Corner Decatur and Bienville streets.
37. Corner Decatur and Toulouse streets.
38. Corner Decatur and Hospital streets.
39. Corner Chartres and St. Louis streets.
40. Corner Chartres and Elysian Fields streets.
41. Corner Bourbon and Customhouse streets.
42. Corner Bourbon and Rampart streets.
43. Corner Dauphine and Enghein streets.
44. Corner Dauphine and Clouet streets.
45. Corner St. Claude and St. Bernard streets.
46. Corner St. Claude and Poet streets.
47. Corner St. Philip and Roman streets.
48. Corner Esplanade and Trémé streets.
49. Corner Esplanade and Frenchmen streets.
50. Corner St. Bernard and Claiborne streets.
51. Washington Avenue Market.

BLOW-OFFS.

1. Corner Baronne and Gravier streets.
2. Corner Camp and Natchez streets.
3. Corner Camp and Clio streets.
4. Corner Camp and Race streets.
5. Corner Chartres and Canal streets.
6. Corner Chartres and St. Philip streets.
7. Corner Decatur and Marigny streets.
8. Corner Decatur and Enghein streets.
9. Corner Dauphine and Piety streets.

LOCATION OF BLOW OFFS—Continued.

10. Corner Esplanade and Broad streets.
11. Corner Gasquet and Canal streets.
12. Corner Louisiana avenue and Coliseum street.
13. Corner Louisiana and St. Charles avenues.
14. Corner Laharpe and Johnson streets.
15. Corner Poydras and Rampart streets.
16. Corner Peters and Press streets.
17. Corner Rampart and Julia streets.
18. Corner St. Peter and Marais streets.
19. Corner St. Charles avenue and General Taylor street.
20. Corner St. Charles and Napoleon avenues.
21. Corner St. Charles and Peters avenues.
22. Corner Tchoupitoulas and Girod streets.
23. Keller Market.

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	740	
Holly	137	
Under ground	132	
Mathews	63	
Iron case	40	
Boston	5	
		1,117
Fire wells		51
Blow-offs		23
		1,191
Main stop cocks or gates		551

DISTRIBUTION—CAST IRON PIPES.

3-inch....	30,220 ft.	10-inch....	23,600 ft.	20-inch....	2,300 ft.
4-inch....	68,323 ft.	12-inch....	8,375 ft.	24-inch....	2,400 ft.
6-inch....	94,911 ft.	16 inch....	21,175 ft.	30 inch....	16,100 ft.
8-inch....	101,862 ft.	18-inch....	16,400 ft.	36-inch....	3,300 ft.

or 73.67 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST THREE YEARS.

MEAN TEMPERATURE.					RAINFALL.				
	1884.	1885.	1886.	1887.		1884.	1885.	1886.	1887.
January,	47	52	39	51	January,	4.35	9.70	7.53	4.26
February,	61	53	42	65	February,	3.16	2.39	1.96	5.58
March,	65	58	58	62	March,	8.24	6.99	8.41	3.37
April,	68	70	65		April,	6.48	3.67	5.60	
May,	76	74	72		May,	4.33	5.77	3.07	
June,	79	82	79		June,	8.60	3.30	9.30	
July,	85	83	80		July,	4.12	6.15	4.35	
August,	82	77	81		August,	.87	4.25	2.40	
September,	81	72	78		September,	3.12	13.55	4.09	
October,	74	56	69		October,	5.60	.56	.22	
November,	60	51	59		November,	3.13	3.47	5.33	
December,	59	46	51		December,	8.01	4.38	2.57	

WORK DONE AND MATERIALS USED IN STREET SERVICE.

62 Leaks on 30-inch main pipe.
203 Leaks on main pipe.
21 Broken main pipes replaced with new.
5 Broken cement pipes repaired.
16 Broken service pipes repaired.
1 Stop cock dug and found.
6 Service pipes cut and plugged.
3 Ferrules drawn from main pipe.
4 Ferrules replaced in main pipe.
306 Leaking stop cocks repaired.
21 Stop cocks furnished with new screws.
306 Stop cocks, packing renewed.
674 Stop cocks, joints caulked.
211 Wooden cased fire hydrants repaired.
18 Under ground fire hydrants repaired.
6 Philadelphia fire hydrants repaired.
25 Holly fire hydrants repaired.
7 Mathew fire hydrants repaired.
1 Broken fire hydrant replaced.
1 Broken under ground fire hydrant replaced.
1 Broken Holly fire hydrant replaced.
2 Cypress cases for under ground fire hydrants.
27 Cypress cases for and covers with hinges.
14 Cypress staves with new hooks.
211 Leaks on fire hydrants.
14 Broken wooden cases repaired.
306 Joints caulked on fire hydrants.
306 Packing renewed on fire hydrants.
84 Joints caulked.
21 Gate packing renewed.
1 4-inch pipe banded.

WORK DONE AND MATERIALS USED IN STREET SERVICE—*Continued.*

4257 Yards stone pavement relaid.
746 Yards flag pavement relaid.
557 Yards brick pavement relaid.
9 Barrels cement.
150 Loads river sand.
840 Loads cinders.
100 Bricks for fire well.
1 Barrel cement.
2 3-inch iron stop cock screws.
5 4-inch iron stop cock screws.
2 6-inch iron stop cock screws.
5 8-inch iron stop cock screws.
3 10-inch iron stop cock screws.
2 12-inch iron stop cock screws.
1 16-inch iron stop cock screw.
1 24-inch brass stop cock screw.
41 Packing box bolts and nuts.
113 ¾-inch bolts and nuts.
4 Cast iron frames and covers.
1 Morgan frame and cover.
4 Cypress cases for street valves.
4 Wooden frames.
98 Feet 4-inch pipe.
90 Feet 6-inch pipe.
12 Feet 8-inch pipe.
12 Feet 10 inch pipe.
10 4-inch sleeves.
8 6-inch sleeves.
1 8-inch sleeve.
1 10-inch sleeve.
360 lbs. pig lead.

Work Done and Materials Used in Street Service—Continued.

30 lbs. packing yarn.
115 Wrought iron rods for wooden case fire hydrants.
5 Wrought iron rods for Philadelphia fire hydrants.
2 Wrought iron rods for under ground fire hydrants.
17 Copper rods for under ground fire hydrants.
115 Iron screws with clamps for under ground fire hydrants.
19 Iron screws without clamps for under ground fire hydrants.
19 Brass nuts for under ground fire hydrants.
91 Wrought iron stirrups and nuts, long, for fire hydrants.
36 Wrought iron stirrups and nuts, short, for fire hydrants.
230 Cast iron valve flanges, large.
230 Cast iron valve flanges, small.
115 Gum valves.

For Repairs of Holly Fire Hydrants.

25 Wrought iron screws covered with brass.
25 Cast iron valves.
25 Cast iron seats.
3 Cast iron ferrules to cover screws.
12 Cast iron top covers.
3 Cast iron glands.
137 ¾-inch bolts.
18 ⅞-inch bolts and nuts.
25 Gum valves.

For Repairs of Mathew Fire Hydrants.

6 Cast iron top nuts.
6 Gum valves.
181 lbs. ⅞ iron washers.
27 lbs. patent packing for street valves.

MATERIALS USED IN IMPROVEMENTS AND EXTENSIONS ON ST. CHARLES AVENUE, FROM SIXTH STREET TO ABOVE PETERS AVENUE, AND ON LOUISIANA AVENUE, FROM MAGAZINE STREET TO ST. CHARLES AVENUE.

1 6x4-inch three way branch.
4 8x4-inch three way branches.
2 8x8-inch four way branches.
1 8x6-inch reducing pipe.
37 Feet 4-inch pipe.
3633 Feet 6-inch pipe.
7137 Feet 8-inch pipe.
2 8-inch cast iron plugs.
5 4-inch valves.
2 6-inch valves.
5 8-inch valves.
1 4-inch quarter bend.
2 8-inch quarter bends.
7638 lbs. pig lead.
411 lbs. packing yarn.
900 Feet 12x3-inch planks.
550 Feet 4x3-inch scantling.
350 Feet 12x1-inch boards.
12 Morgan frames and covers.
2 Round banquet frames and covers.
6 Cast iron frames and covers for valves.
6 Cypress cases made at shop for valves.

OTHER IMPROVEMENTS AND EXTENSIONS.

1 3x3-inch three way branch.
1 4x3-inch three way branch.
2 4x4 inch three way branches.
1 6x6-inch three way branch.
1 8x4-inch three way branch.
2 4x3-inch reducing pipes.
1 6x4-inch reducing pipe.
3 3-inch sleeves.
2 4-inch sleeves.
1 6-inch sleeve.
1 8-inch sleeve.
3 3-inch quarter bends.
3 4-inch goose-necks.
3 3-inch valves.
1 4-inch valve.
2767 Feet 3-inch pipe.
218 Feet 4-inch pipe.
3 Feet 6-inch pipe.
1503 lbs. pig lead.
63 lbs. hemp packing yarn.
2 Morgan frames and covers.
3 Cast iron frames and covers.
3 Cypress cases.
1 Fire hydrant, wooden cased.
1 Cypress case for fire hydrant.
18 Yards flagging.
8 Yards bricking.
177 Yards paving.
3 Round banquet frames and covers for gauge pipes.
3 ¾-inch stop cocks for gauge pipes.
10½ Feet ¾-inch gas pipe for gauge pipes.
3 Holes drilled and tapped for gauge pipes.

PRIVATE WORK DONE AND MATERIALS FURNISHED.

2 6x3-inch three way branches.
1 6x4-inch three way branch.
1 6x6-inch three way branch.
1 8x6-inch three way branch.
1 10x6-inch three way branch.
1 12x6-inch three way branch.
1 6x4-inch reducing pipe.
2 4-inch sleeves.
3 6-inch sleeves.
1 8-inch sleeve.
1 10-inch sleeve.
1 12-inch sleeve.
3 3-inch valves.
2 4-inch valves.
2 6-inch valves.
1 3-inch quarter bend.
1 4-inch quarter bend.
4 6-inch quarter bends.
3 8-inch quarter bends.
1 4-inch eighth bend.
4 6-inch eighth bends.
2 4-inch saddles.
27 ½-inch ferrules.
33 ⅝-inch ferrules.
47 ¾-inch ferrules.
90 Feet 4-inch pipe.
124 Feet 6-inch pipe.
60 Feet 8-inch pipe.
2 Holly fire hydrants.
6 Morgan frames and covers.
3 Cast iron frames and covers.
2 Cypress cases.
4½ lbs. pure gum packing.
899 lbs. pig lead.
60 lbs. hemp packing yarn.
48 Yards paving laid.
163 Yards paving renewed.
4 Yards flagging.
61 Ditches dug.
107 Holes drilled.

MATERIALS ON HAND FOR STREET SERVICE.

29	Wooden cased fire hydrants, at $15 00	$ 435 00
5	Philadelphia iron cased fire hydrants, at $12 00	60 00
2	Under ground fire hydrants, at $10 00	20 00
13	Holly fire hydrants, at $30 00	390 00
2	Philadelphia large iron cases, not in repair, at $2 00	4 00
47	Cast iron covers, with hinges, for wooden cased fire hydrants, at $2 00	94 00
70	Hooks for wooden cased covers, at 50 cts	35 00
27	Wrought iron top bands for fire hydrant cases, at 50 cts	13 50
27	Wrought iron bottom bands for fire hydrant cases, at 50 cts	13 50
400	Wrought iron keys for screw clamp for fire hydrants, at 4 cts	16 00
200	Wrought iron buttons for rods of fire hydrants, at 10 cts	20 00
59	Wrought iron screws, without clamps, at $2 50	147 50
75	Wrought iron stirrups and nuts, long, at 25 cts	18 75
12	Wrought iron stirrups and nuts, short, at 25 cts	3 00
92	Wrought iron rods for wooden cased fire hydrants, at 25 cts	23 00
15	Wrought iron rods for Philadelphia fire hydrants, at 25 cts	3 75
11	Wrought iron rods for under ground fire hydrants, at 25 cts	2 75
7	Copper rods for under ground fire hydrants, at $1 00	7 00
7	Brass nuts for under ground fire hydrants, at $1 00	7 00
100	Brass nozzles for fire hydrants, new, at 40 cts	40 00
	Amount carried forward	$ 1,353 75

MATERIALS ON HAND FOR STREET SERVICE—Continued.

	Amount brought forward	$1,353 75
4	4-inch goose necks for fire hydrants, at $7 75	23 25
23	4-inch pieces for raising fire hydrants, at $4 50	103 50
37	Gum valves for fire hydrants, at $1 00	37 00
90	Cast iron valve flanges, large, at 5 cents	4 50
116	Cast iron valve flanges, small, at 4 cts	4 64
407	Cypress staves for fire hydrant cases	50 90
5	Cast iron covers for Philadelphia fire hydrants, large, at $2 25	11 25
6	Cast iron covers for Philadelphia fire hydrants, small, at $2 00	12 00
48	lbs. tarred marlin, at 15 cts	7 20
25	lbs. ½-inch patent packing for stop cocks, at 25 cts	6 25
26	lbs. ⅝-inch patent packing for stop cocks, at 25 cts.	6 50
22	lbs. ¾-inch patent packing for stop cocks, at 25 cts	5 50
25	lbs. ¾-inch mixed gum packing, at 26 cts	6 50
41½	lbs. 1-inch pure gum packing, at 78 cts	32 37
852	lbs. 1-inch hemp packing yarn, at 8 cts	68 16

WHITTIER, OR BOSTON STOP COCK SCREWS.

12	6-inch iron screws, at $1 75	21 00
12	8-inch iron screws, at $2 25	27 00
12	10-inch iron screws, at $3 25	39 00
12	12-inch iron screws, at $4 50	54 00
12	20-inch iron screws, at $9 00	108 00

EDDY, OR R. D. WOOD STOP COCK SCREWS.

7	6-inch iron screws, at $1 00	7 00
10	8-inch iron screws, at $1 30	13 00
	Amount carried forward	$ 2,002 27

MATERIALS ON HAND FOR STREET SERVICE—Continued.

	Amount brought forward	$2,002 27
3	10-inch iron screws, at $1 75	5 25
3	12-inch iron screws, at $1 85	5 55
	CHAPMAN STOP COCK SCREWS.	
1	4-inch iron screw, at $2 00	2 00
2	6-inch iron screws, at $2 50	5 00
2	8-inch iron screws, at $3 00	6 00
	BOSTON STOP COCK SCREWS.	
9	6-inch brass screws, at $4 00	36 00
12	8-inch brass screws, at $4 50	54 00
4	6-inch iron screws, at $4 00	16 00
3	8-inch iron screws, at $5 00	15 00
	LUDLOW STOP COCK SCREWS.	
2	6-inch brass screws, at $5 00	10 00
4	8-inch brass screws, at $5 50	22 00
12	6-inch iron screws, at $6 00	72 00
22	8-inch iron screws, at $6 50	143 00
	FOR HOLLY FIRE HYDRANTS.	
9	Wrought iron screws covered with brass, at $2 00	18 00
94	Cast iron ferrules to cover screws, at 5 cts	4 70
9	Cast iron valves for single nozzles, at $3 00	27 00
9	Cast iron valve seats for single nozzles, at $4 00	36 00
4	Cast iron valves for double nozzles, at $4 50	18 00
4	Cast iron valves for double nozzles, at $3 00	12 00
10	Cast iron glands for packing box, at $1 00	10 00
16	Cast iron top covers, at $1 50	24 00
6	½-inch bolts for top covers, at 10 cts.	60
8	⅝-inch bolts and nuts, at 10 cts	80
4	Gum valves, at 50 cts	2 00
	Amount carried forward	$2,547 17

MATERIALS ON HAND FOR STREET SERVICE—Continued.

	Amount brought forward.....	$2,547 17
	FOR MATHEW FIRE HYDRANTS.	
15	Cast iron top nuts, at $1 50.....	22 50
4	Brass hollow screws, at $4 00.....	16 00
40	½-inch bolts and nuts, at 10 cts.....	4 00
25	lbs. ½-inch mixed gum packing, at 25 cts.....	6 25
41½	lbs. ½-inch pure gum packing, at 80c.....	33 20
	MILWAUKEE AND BOSTON FERRULES.	
135	½-inch Milwaukee ferrules, at 87 cts	117 45
76	¾-inch Milwaukee ferrules, at $1 10.....	83 60
18	1-inch Milwaukee ferrules, at $1 60	28 80
8	½-inch Boston ferrules at $1 10	8 80
8	¾-inch Boston ferrules, at $1 60.....	12 80
138	Cast iron stop cock covers, at 85 cts	117 30
	SCREWS FOR OLD GATES.	
11	3-inch iron screws, at $3 25	35 75
2	4-inch iron screws, at $3 50.....	7 00
10	6-inch iron screws, at $3 80.....	38 00
12	8-inch iron screws at $4 00.....	48 00
7	10-inch iron screws, at $4 60.....	32 20
10	12-inch iron screws, at $5 00.....	50 00
	CAST IRON GLANDS FOR STUFFING BOX, FROM 3 TO 12 INCHES.	
48	Unfinished cast iron glands, from 3-inch to 12-inch, at 40 cts.....	19 20
34	Unfinished cast iron glands, from 16-inch to 18-inch, at 60 cts.....	20 40
27	Finished cast iron glands, from 4-inch to 8-inch, at 75 cts	20 25
19	Cast iron frames and covers for street gates, at $9 00.....	121 00
	Amount carried forward.	$3,389 67

MATERIALS ON HAND FOR STREET SERVICE—Continued.

	Amount brought forward	$3,389 67
12	Morgan frames and covers for street gates, at $7 00	84 00
30	Packing box bolts and nuts, at 25 cts	7 50
25	⅝-inch bolts and nuts, at 15 cts	3 75
60	lbs. patent packing, at 20 cts	12 00
12	3-inch cypress plugs for plugging ends of pipes, at 40 cts	4 80
12	4-inch cypress plugs for plugging end of pipes, at 45 cts	5 40
12	6-inch cypress plugs for plugging end of pipes, at 50 cts	6 00
12	8-inch cypress plugs for plugging end of pipes, at 60 cts	7 20
12	10-inch cypress plugs for plugging end of pipes, at 70 cts	8 40
5	4x2-inch cypress tapering plugs for driving in end of pipe, at 40 cts	2 00
4	5x3-inch cypress tapering plugs for driving in end of pipe, at 45 cts	1 80
6	7x4-inch cypress tapering plugs for driving in end of pipe, at 60 cts	3 60
6	9x5-inch cypress tapering plugs for driving in end of pipe, at 75 cents	4 50
11	12x6-inch cypress tapering plugs for driving in end of pipe, at 85 cts	9 35
		$3,549 97

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

2 Lengths 48-inch pipe.
6½ Lengths 36-inch pipe.
23½ Lengths 30-inch pipe.
2 Lengths 24-inch pipe.
3 Lengths 20-inch pipe.
2 Lengths 18-inch pipe.
4 Lengths 16-inch pipe.
24½ Lengths 12-inch pipe.
22½ Lengths 10-inch pipe.
50 Lengths 8 inch pipe.
65 Lengths 6-inch pipe.
62 Lengths 4-inch pipe.
99 Lengths 3 inch pipe.
2 36-inch sleeves.
1 30-inch sleeve.
1 24-inch sleeve.
2 18-inch sleeves,
5 16-inch sleeves.
6 12-inch sleeves, short
4 12-inch sleeves.
4 10-inch sleeves, shor
5 10-inch sleeves.
6 8-inch sleeves.
27 6-inch sleeves.
12 3-inch sleeves.

Four Way Branches.

1 30x 8-inch four way branch.
1 20x10-inch four way branch.
1 16x12-inch four way branch.
5 16x 8-inch four way branches.
5 16x 6-inch four way branches.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

5 12x 8-inch four way branches.
4 12x 6-inch four way branches.
5 8x 8-inch four way branches.
8 8x 6-inch four way branches.
16 8x 4-inch four way branches.
17 6x 6-inch four way branches.
6 4x 4 inch four way branches.

THREE WAY BRANCHES.

5 30x12-inch three way branches.
1 18x12-inch three way branch.
1 16x 8-inch three way branch.
2 12x 8-inch three way branches.
5 12x 6-inch three way branches.
2 8x 8-inch three way branches.
1 8x 4-inch three way branch.
13 8x 3 inch three way branches.
8 6x 6-inch three way branches.
12 6x 4 inch three way branches.
2 6x 3-inch three way branches.
7 4x 4-inch three way branches.
1 4x 3-inch three way branch.
3 3x 3-inch three way branches.
8 8-inch cast iron plugs.
1 18-inch cast iron plug.
1 30-inch cast iron plug.
3 4x 3-inch reducing pipes.
8 6x 4-inch reducing pipes.
9 8x 3-inch reducing pipes.
3 8x 4-inch reducing pipes.
12 8x 6-inch reducing pipes.
1 12x 6-inch reducing pipe.
2 12x 8-inch reducing pipes.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

1 20x12-inch reducing pipe.
2 3-inch quarter bends.
6 4-inch quarter bends.
9 6 inch quarter bends.
2 8-inch quarter bends.
14 4-inch eighth bends.
1 6 inch eighth bend.
8 8-inch eighth bends.
2 30-inch eighth bends.
1 12 inch bevel bend.

CHAPMAN VALVES FOR STREET MAINS.

5 3-inch valves.
6 4-inch valves.
6 6-inch valves.
5 8-inch valves.

OLD STOCK OF VALVES.

1 4 inch valve, Thompson & West.
3 8-inch valves, no value.
4 8-inch valves.
2 10-inch valves.
1 12-inch valve.
1 20-inch valve.

TOOLS AND MATERIALS IN SHOP.

1	Bench vise	$ 5 00
3	Files, at 75 cts	2 25
1	Drill press	10 00
2	Bench hammers, at $1 00	2 00
4	Caulking hammers, at $2 00	8 00
3	Chisels, at $1 00	3 00
18	Caulking irons, at 75 cts	13 50
4	Cutting chisels, at $1 00	4 00
4	Diamond points, at 75 cts	3 00
2	Sledge hammers, at $2 00	4 00
2	Ladles, at $1 25	2 50
1	Pot and furnace	3 00
1	4-inch patent gasquet with iron clamps 2 6 inch patent gasquets with iron clamps 2 8-inch patent gasquets with iron clamps	10 00
4	Wood axes, at $1 00	4 00
4	Grub axes, at $1 00	4 00
3	Danger lanterns, at $2 00	6 00
2	Ship pumps, at $25 00	50 00
30	Feet 2½-inch suction pipe, at 50 cts	15 00
7	Pick axes, at 50 cts	3 50
2	Spades, at $1 00	2 00
5	Shovels, at $1 00	5 00
1	Paving rammer	5 00
2	Crow bars, at $2 00	4 00
2	Monkey wrenches, at $1 50	3 00
2	Pairs stocks and dies, at $5 00	10 00
16	Stop cock keys, all sizes, at $1 50	24 00
3	Bench planes, at 75 cts	2 25
5	Saws, at $1 00	5 00
2	Framing chisels, at 50 cts	1 00
	Amount carried forward	$ 214 00

TOOLS AND MATERIALS IN SHOP—Cont'd.

Amount brought forward	$ 214 00
1 Steel square	75
2 Patent drilling machines with drills, taps and packing for same	250 00
2 Old drilling machines and fixtures, at $10 00	20 00
Scales	25 00
	$ 509 75
Tools at pumping station	250 00
Safe and furniture	600 00
Horse and buggy	350 00
	$1,709 75

CASH RECEIPTS FOR YEAR ENDING AND INCLUDING APRIL 7TH, 1887.

Cash on hand April 8th, 1886	$ 60,929 25
Cash received for water rates, from April 9th, 1886, to April 7th, 1887, inclusive	187,720 20
Cash received for materials sold and labor	2,732 37
Cash received for ashes, etc., sold	31 75
Cash received for plumbers' licenses	10 00
	$251,423 57

CASH DISBURSEMENTS FOR YEAR ENDING AND INCLUDING APRIL 7TH, 1887.

Pumping Service department:		
Wages and salaries	$ 7,204 20	
Supplies	1,766 28	
Repairs, etc	2,481 16	
		$ 11,451 64
(Coal consumed, $8,641 50)		
Improvements and Extensions department:		
Materials, labor, etc		14,242 62
Hydrant Service department:		
Wages and salaries		7,565 25
Office Department:		
Wages and salaries		6,778 15
Street Service department:		
Wages and salaries	5,141 75	
Materials and repairs	1,891 55	
		7,033 30
Water pipes, specials, etc., purchased		2,197 95
Matured coupons paid		25,530 00
Coal purchased		9,697 00
State taxes 1886 paid		6,562 45
City taxes 1886 paid		22,093 59
Dividends paid		85,730 00
Water rates refunded		123 45
Miscellaneous and petty expenses		1,198 65
Attorney's fees and court costs		4,827 05
Interest account, balance		84 47
Rent of office		1,050 00
Telephones		230 00
Purchase of horse		150 00
Keep of horse and buggy		307 90
Printing and stationery		491 00
Cash in bank	43,916 10	
Petty cash on hand	163 00	
		44,079 10
		$251,423 57

ASSETS N. O. WATER WORKS COMPANY.

Invested capital	$2,000,000 00
Cash on hand	44,079 10
Material and fixtures on hand	4,867 91
Coal on hand	2,730 09
Invested in improvements and extensions	410,994 97
Due by U. S. Custom-house	600 02
Due by U. S. Mint	250 00
Deposited with N. O. Gas Light Co.	10 00
Due by Illinois Central Railroad Company	500 00
Due by Mississippi Valley Railroad Company	1,150 00
	$2,465,182 09

Bills for water rates in course of collection, not included in above assets ..... $ 9,644 64

LIABILITIES N. O. WATER WORKS COMPANY.

Capital stock	$2,000,000 00
Bonds issued	395,000 00
Dividends unpaid	1,591 00
Coupons due and unpaid	4,635 00
Profit and loss	63,956 09
	$2,465,182 09

The above is a true and correct transcript from the books of the Company.

J. D. HOUSTON,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me at New Orleans, La., this eleventh of April, A. D. 1887.

A. S. BECK,
Notary Public.

{SEAL}

TENTH

ANNUAL REPORT

OF THE

NEW ORLEANS

Water Works Company.

OFFICERS.

R. E. CRAIG, - - - President.
A. BALDWIN, - - - - Vice President.
L. H. GARDNER, - - - - Superintendent.
R. L. MACMURDO, - - - Secretary and Treasurer.

DIRECTORS.

R. E. CRAIG, - By Stockholders.
A. BALDWIN, - "
H. ABRAHAM, - "
G. W. NOTT, - - "
HON. J. V. GUILLOTTE, Mayor, Ex-officio.
HON. I. W. PATTON, City Treasurer, Ex-officio.

APRIL 9TH, 1888.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.- '11,'88.
1888.

PRESIDENT'S REPORT.

NEW ORLEANS, April 10th, 1888.

To the Board of Directors New Orleans Water Works Company:

Gentlemen—In accordance with requirements of the charter, I submit the following report:

There has been about three per cent. increase in our supply of water and revenues during the past twelve months. Most of our patrons who tried the use of artesian wells have found the experiment unsatisfactory, and have returned to the use of our water. With a growing disposition on part of our people to embark in manufacturing enterprises, we have good reason to expect increased demand for water in this direction, in the near future. The management has for some time been deeply interested in the problem of providing clear water for the patrons of the Company; and, in September last, Mr. J. D. Houston (President of this Company during the first ten months of the current year), visited Kansas City, to inspect the system of "Storage and Settling Basins," in use there. He was pleased with what he saw, and is of the opinion the plan would work well here, if it can be brought to perfection there. We have now in our employ, at Kansas City, Mr. G. W. Pearsons—a competent and experienced engineer—who is prosecuting his studies and experiments in connection with this matter; and he, from time to time, communicates with us as to results obtained. I recommend that this subject be pursued, and further investigations be made as to the practicability of

this method, cost of outlay required to introduce it here, expediency, etc.; and am hopeful that, at a period not far distant, the way will be clear for us to adopt it.

The accompanying report of the Secretary and Treasurer justifies the usual semi-annual dividend of two per cent., which I recommend be made. I refer you to report (herewith) of the Superintendent, for history of the work in his department.

Respectfully submitted,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 9th, 1888.

The President and Directors New Orleans Water Works Company:

Gentlemen—The past year has been a comparatively quiet one in the history of the Company. We have had no accidents to our machinery, all of which has, in the main, worked smoothly and satisfactorily, without any interruption in the service, and repairs have been lighter than for several years.

Extension of the distribution consists of—

500 feet of 4-inch pipe on Upper Line street, east of St. Charles avenue, laid in June.

640 feet of 4-inch pipe on Bienville street, from Liberty to Villere, laid in July.

350 feet 8-inch pipe on Canal street (lower side), from Royal to Bourbon, laid in August.

264 feet 3-inch pipe on Laurel street, north from Jackson avenue, laid in January.

One wooden case fire hydrant on Laurel street, between Jackson and Josephine streets.

Three Holly hydrants on St. Charles avenue, between Sixth and Louisiana avenue.

The first named hydrant is added to city list and the other three are transfers.

After their repair last summer, the active use of the west pair of basins was for some time suspended. They were placed in service again some three months ago, and have not since shown any renewed sign of leaking.

We now have seven meters (one and two inch) in use. I have tested two for accuracy which have been longest in use, say about a year, and find their wear in that time much less than was

to have been expected. It will be a matter for congratulation when, with delivery of a clearer water, we can meter all consumers other than families. There is no doubt but that the meter system would largely increase the revenues of the Company and at the same time, to a large extent, obviate complaints of over assessment. This result has followed the adoption of the system in every city where the character of the water has permitted it, and is no longer a matter of doubt or experiment. The silt or suspended matter carried by the Mississippi river varies from sixty grains to fifteen hundred grains of solid matter per gallon. The character of this silt is such as to rapidly cut and wear the working parts of all machinery, and of necessity would materially shorten the useful life of the water meter.

The adequacy of water supply, both as to quantity and pressure, during the year, has not been complained of by the fire department or otherwise. The pressure has been slightly increased, and is now carried between 60 and 65 feet for day service and is found ample for the use of hydraulic elevators, and therefore for every class of consumers.

In view of increased water consumption, the consumption of coal has been still further reduced during the past year, and seems now to have reached the limit of economy. The increase of revenue for the year, actually collected, would be much larger but that several of our largest consumers are now paying their bills monthly instead of yearly in advance.

I beg anew to commend the faithfulness, intelligence and zeal of all the employees of the Company, in all its departments.

Respectfully,

L. H. GARDNER,

Superintendent.

ENGINE RECORD FOR THE YEAR APRIL 8, 1887, TO APRIL 8, 1888.

Month	Gallons of Water Pumped	Average Head in Feet	Coal Consumed, Barrels of 180 Pounds			Duty (Pounds raised one Foot with 100 lb coal) Banking not incl'd	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal	Per cent. of Dry Ashes & Cinders	Average of River below Bed Plate	Gals. Oil	Pounds Tallow	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total									
1887														
April 9-20	89,571,160	58	1,029			23,394,903	483							
	36,849,640	30	253	51	1,333	20,218,815	807	9.	6.	5 ft. 8 in	17	282	88	126,420,800
May	120,423,320	59	1,429			23,020 784	467							
	60,446,118	30	455	50	1,934	18,589,276	737	8.45	6.	7 ft. 2 in	25	350	128	180,869,438
June	134,246,382	66	1,738			23,616,026	429							
	68,755,600	30	526	75	2,339	18,165,418	725	8 95	6.	11 ft. 8 in	37	359	140	203,001,982
July	137,190,428	68	1,716			25,179,105	444							
	81,944,760	30	609	87	2,412	18,689,680	747	9.	6.	14 ft. 1 in	34	372	138	219,135,188
August	146,293,916	69	1,788			23,075,867	454							
	80,993,840	30	598	78	2,464	18,798,384	751	9.10	6.	15 ft 6 in	26	375	128	227,287,756
Sept	147,695,602	67	1,664			27,537,320	492							
	79,980,200	30	556	77	2,297	19,991,054	799	8 55	6.	15 ft. 6 in	25	369	124	227,675,802
Oct	140,901,976	69	1,591			28,311,261	492							
	77,682,260	30	531	83	2,205	20,330,650	813	8.45	6.	15 ft 6 in	24	372	124	218,584,236
Nov	138,410,500	70	1,592			28,194,016	483							
	71,156,500	30	505	87	2,184	19,564,128	782	8.40	6.	16 ft. 8 in	23	360	124	209,567,000
Dec	138,191,678	70	1,624			27,581,648	472							
	74,096,000	30	523	83	2,230	19,680,275	786	8 05	6.	16 ft. 5 in	24	376	124	212,287,678
Jan. 1888	120,968,796	68	1,418			28,861,322	473							
	64,995,480	30	496	87	2,001	18,230,795	728	7.90	6.	14 ft. 1 in	24	382	126	185,964,276
Feb	109,363,280	61	1,206			25,639,389	504							
	49,872,660	30	359	46	1,611	19,256,388	770	8.45	5.75	10 ft. 6 in	22	364	116	159,235,940
March	116,146,500	60	1,263			25 998,112	518							
	53,435,980	30	388	49	1,700	19,126,870	764	8.30	5.75	8 ft. 8 in	23	372	124	169,582,480
April 1-8	30,310,520	58	319			25,587,792	528							
	18,046,280	30	125	18	462	20,067,460	800	8.50	6.	6 ft. 10 in	10	86	35	48,356,800
Totals & Averages.	2,387,969,376	65	24,301	871	25,172		480	8.55	6.		314	4419	1519	2,387,969,376
		30					770							

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	741	
Holly	140	
Under-ground	132	
Mathew	63	
Iron case	40	
Boston	5	
		1,121
Fire wells		51
Blow-offs		23
		1,195
Main stop cocks or gates		556

DISTRIBUTION—CAST IRON PIPES.

3-inch	30,484 ft.	10-inch	23,600 ft.	20-inch	2,300 ft.
4-inch	69,463 ft.	12-inch	8,375 ft.	24-inch	2,400 ft.
6-inch	94,911 ft.	16-inch	21,175 ft.	30-inch	16,100 ft.
8-inch	102,212 ft.	18-inch	16,400 ft.	36-inch	3,300 ft.

or 74 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST FOUR YEARS.

MEAN TEMPERATURE.

	1884.	1885.	1886.	1887.	1888.
Jan.	47	52	39	51	56
Feb.	61	53	42	65	59
Mar.	65	58	58	62	60
Apl.	68	70	65	68	
May,	76	74	72	75	
June,	79	82	79	78	
July,	85	83	80	80	
Aug.	82	75	81	81	
Sept.	81	72	78	77	
Oct.	74	56	69	69	
Nov.	60	51	59	61	
Dec.	59	46	51	53	

RAINFALL.

	1884.	1885.	1886.	1887.	1888.
Jan.	4.35	9.70	7.53	4.26	3.29
Feb.	3.16	2.39	1.96	5.58	11.21
Mar.	8.24	6.99	8.41	3.37	6.45
Apl.	6.48	3.67	5.60	1.87	
May,	4.33	5.77	3.07	3.99	
June,	8.60	3.30	9.30	11.33	
July,	4.12	6.15	4.35	7.85	
Aug.	.87	4.25	2.40	7.42	
Sept.	3.12	13.55	4.69	6.51	
Oct.	5.60	.56	.22	4.71	
Nov.	3.13	3.47	5.33	.52	
Dec.	8.01	4.38	2.57	7.56	

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIRS.

2 Leaks on 36-inch main pipe.
25 Leaks on 30-inch main pipe.
185 Leaks on main pipes, from 3-inch to 20-inch.
25 Broken main pipes replaced with new lengths.
4 Broken cement pipes repaired.
24 Broken service pipes repaired.
1 Stop cock dug for and found.
7 Service pipes cut and plugged.
18 Ferrules drawn from main pipe.
3 Ferrules replaced in main pipe.
311 Leaking stop cocks repaired.
58 Stop cocks furnished with new screws.
310 Stop cocks, packing renewed.
620 Stop cocks, joints caulked.
71 Wooden cased fire hydrants repaired.
27 Under-ground fire hydrants repaired.
3 Philadelphia fire hydrants repaired.
33 Holly fire hydrants repaired.
3 Mathew fire hydrants repaired.
1 Broken Mathew fire hydrant, broken, replaced with Holly fire hydrant.
1 Broken Holly fire hydrant, broken, replaced with new Holly.
1 Broken wooden cased fire hydrant, replaced with new Holly.
1 4-inch goose-neck for fire hydrant, replaced with new.
1 Philadelphia fire hydrant taken out and replaced with wooden cased hydrant.
4 Cypress cases for under-ground fire hydrants.
32 Cypress cases and covers with hinges.
57 Cypress staves with new hooks on broken cases.
5 Cast iron covers with hinges, replaced where broken.
12 Philadelphia covers with hinges, replaced where broken.
212 Leaks on fire hydrants repaired.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

212 Joints caulked on fire hydrants.
147 Joints renewed on fire hydrants.
212 Packing renewed on fire hydrants.
3725 Yards stone pavement.
695 Yards flag pavement.
590 Yards brick pavement.
7 Barrels cement.
60 Loads river sand.
830 Loads cinders.
2 3-inch iron screws (Thompson & West).
10 4-inch iron screws (Thompson & West).
11 6-inch iron screws (Thompson & West).
7 8-inch iron screws (Thompson & West).
4 10-inch iron screws (Thompson & West).
2 12-inch iron screws (Thompson & West).
2 16-inch iron screws (Thompson & West).
1 18-inch iron screw (Thompson & West).
4 6-inch iron screws (Boston).
3 8-inch iron screws (Boston).
1 6-inch iron screw (Ludlow).
4 8-inch iron screws (Ludlow).
2 3-inch iron screws (Chapman).
1 4-inch iron screw (Eddy).
3 6-inch iron screws (Eddy).
1 8-inch iron screw (Eddy).
180 ⅝-inch bolts and nuts for all valves.
116 Packing box bolts and nuts for all valves.
58 Packing renewed for all valves.
232 Joints caulked for all valves.
4 Cast iron frames and covers for main stop cocks.
4 New cypress cases for main stop cocks.
22 New cypress frames for main stop cocks.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

508 lbs. pig lead.
55 lbs. hemp packing yarn.
71 Wrought iron rods for wooden cased fire hydrants.
3 Wrought iron rods for Philadelphia fire hydrants.
4 Wrought iron rods for under-ground fire hydrants.
14 Copper rods for under-ground fire hydrants.
75 Wrought iron screws with clamp for wooden cased fire hydrants.
18 Wrought iron screws without clamp, for under-ground fire hydrants.
6 Brass nuts for under-ground fire hydrants.
5 Brass nozzles for fire hydrants.
103 Wrought iron stirrups and nuts (long) for fire hydrants.
75 Wrought iron stirrups and nuts (short) for fire hydrants.
139 Cast iron valve flanges (large) for fire hydrants.
139 Cast iron valve flanges (small) for fire hydrants.
150 Wrought iron keys for fire hydrants.
92 Wrought iron buttons for fire hydrants.
92 Wrought iron slats for fire hydrants.
92 Gum valves.

FOR REPAIRS OF HOLLY FIRE HYDRANTS.

35 Repaired.
33 Cast iron valves.
33 Cast iron valve seats.
8 Cast iron ferrules to cover screws.
3 Cast iron top covers.
7 Cast iron glands.
33 Wrought iron screws covered with brass.
33 Gum valves.
98 ½-inch bolts.
25 ¾-inch bolts and nuts.
35 Joints caulked.
35 Packing renewed.

Work Done and Materials Used in Street Service—Continued.

For Repairs of Mathew Fire Hydrants.

2 Hollow brass nuts for opening and closing fire hydrants.
3 Cast iron top nuts.
2 Gum valves.
6 ¼-inch bolts and nuts.
4 Joints caulked.
4 Packing renewed.
508 lbs. pig lead for all repairs to hydrants.
7 Cast iron covers with hinges for small iron cases (Phila.)
5 Cast iron covers with hinges for large iron cases (Phila.)
3 Cast iron cases and with cover and hinges, small (Phila.)
3 Cast iron cases and with cover and hooks, large (Phila.)
5 Cast iron covers with hinges for wooden cases.
2 Cast iron covers for under-ground fire hydrants.
2 Boiler iron covers for under-ground fire hydrants.
18 Joints caulked.
1 Length 3-inch pipe where broken.
14 Lengths 4-inch pipe where broken.
5 Lengths 6-inch pipe where broken.
2 Lengths 8-inch pipe where broken.
2 Lengths 10-inch pipe where broken.
1 Length 16-inch pipe where broken.
1 3 inch sleeve.
14 4-inch sleeves.
5 6-inch sleeves.
2 8-inch sleeves.
2 10-inch sleeves.
1 16-inch sleeve.
4 Holes drilled to replace ferrules.
850 lbs. pig lead used for the above work.
4104 lbs. pig lead used for all work done.

MATERIALS USED IN IMPROVEMENTS AND EXTENSIONS.

1 6x4-inch four way branch.
3 8x4-inch three way branches.
3 6x4-inch three way branches.
1 4x3-inch reducing pipe.
3 8-inch sleeves.
3 6-inch sleeves.
1 4-inch sleeve.
2 4-inch ¼ bends.
1 3-inch ¼ bend.
1 4-inch goose neck.
3 4-inch valves.
1 3-inch valve.
264 Feet 3-inch pipes.
1138 Feet 4-inch pipes.
3 Holly fire hydrants.
1 Wooden cased fire hydrant.
1 Iron rod.
1 Iron screw and clamp.
2 Stirrups and nuts.
2 Cast iron valve flanges.
1 Gum valve.
1 Cypress case and cover with hinges.
2 Morgan frames and covers.
2 Cast iron frames and covers.
2 Cypress cases for stop cocks.
1258 lbs. pig lead.
60 lbs. hemp packing yarn.
216 Yards paving.
8 Yards bricking.
20 Yards asphalt paving.

PRIVATE WORK DONE AND MATERIALS USED THEREIN.

1 8x8-inch four way branch.
3 8x4-inch four way branches.
2 8x4-inch three way branches.
1 8x3-inch three way branches.
2 6x4-inch three way branches.
3 6x3-inch three way branches.
1 4x4-inch three way branch.
2 4x3-inch three way branches.
1 3x3-inch three way branch.
1 6x4-inch reducing pipe.
5 4x3-inch reducing pipes.
5 8-inch sleeves.
5 6-inch sleeves.
7 4-inch sleeves.
4 3-inch sleeves.
1 8-inch saddle.
1 8-inch quarter bend.
5 6-inch quarter bends.
7 4-inch quarter bends.
3 3-inch quarter bends.
240 Feet 8-inch pipe.
96 Feet 6-inch pipe.
342 Feet 4-inch pipe.
126 Feet 3-inch pipe.
1 8-inch Chapman valve.
1 6-inch Chapman valve.
11 4-inch Chapman valves.
8 3-inch Chapman valves.
1 3-inch Chapman screw.
3 4-inch T. & W. screws.
5 lbs. ½-inch gum packing.
8 ⅝-inch bolts and nuts.

PRIVATE WORK DONE AND MATERIALS USED—Continued.

8 Morgan's frames and covers.
8 Square cast iron frames and covers.
3 Under-ground fire plug frames and covers.
11 Cypress cases.
1 Wooden cased fire plug removed.
1 Holly fire plug placed.
1 Wooden cased fire plug.
1 Iron rod.
1 Iron screw and clamp.
2 Iron stirrups and nuts.
2 Cast iron valve flanges.
1 Gum valve.
1 Cypress case and cover with hinges.
1158 lbs. pig lead.
50 lbs. packing yarn.
1253 lbs. coal.
244 Yards paving.
10 Yards flagging.
16 ½-inch Milwaukee ferrules.
26 ⅝-inch Milwaukee ferrules.
38 ¾-inch Milwaukee ferrules.
34 Ditches dug.
80 Holes drilled and tapped.
101 Yards paving renewed.

MATERIALS AND FIXTURES ON HAND.

8	Wooden cased fire hydrants, at $15 00	$ 120 00
6	Philadelphia fire hydrants, at $12 00	72 00
4	Under-ground fire hydrants, at $10 00	40 00
2	Philadelphia iron cases, large, not in repair, at $2 00	4 00
1	Philadelphia iron case, small, at $2 50	2 50
1	Philadelphia large iron cover with hooks, at $2 25	2 25
3	Philadelphia small iron covers with hinges, at $2 00	6 00
45	Wooden case iron covers with hinges, at $2 00	90 00
3	Under-ground frames and no covers, at $2 50	7 50
6	Wrought iron hooks for wooden cased covers, at 50 cents	3 00
10	Wrought iron top bands for wooden cased fire hydrants, at 50 cents	5 00
69	Wrought iron centre bands for wooden cased fire hydrants, at 50 cents	34 50
69	Wrought iron bottom bands for wooden cased fire hydrants, at 50 cents	34 50
35	Wrought iron screws, without clamps, at $2 50	87 50
90	Wrought iron stirrups and nuts, short, at 25 cents	22 50
65	Wrought iron stirrups and nuts, long, at 25 cents	16 25
250	Wrought iron keys for screw clamps for fire hydrants, at 5 cents	12 50
108	Wrought iron buttons for rod of fire hydrants, at 10 cents	10 80
50	Wrought iron rods for wooden cased fire hydrants, at 30 cents	15 00
9	Wrought iron rods for Philadelphia fire hydrants, at 25 cents	2 25
9	Wrought iron rods for under-ground fire hydrants, at 25 cents	2 25
	Amount carried forward	$ 590 30

MATERIALS AND FIXTURES ON HAND—Continued.

	Amount brought forward	$ 590 30
6	Copper rods for under-ground fire hydrants, at $1 25	7 50
5	Brass nuts for under-ground fire hydrants, at $1 25	6 25
98	Brass nozzles for under-ground fire hydrants, at 40 cents	39 20
84	Cast iron valve flanges, small, for fire hydrants, at 4 cents	3 36
62	Cast iron valve flanges, large, for fire hydrants, at 5 cents	3 10
187	Gum valves for fire hydrants, at $1 00	187 00
744	New cypress staves for fire hydrant cases, at 12½ cents	93 00

FOR MATHEW FIRE HYDRANTS.

14	Cast iron top nuts, $1 50	21 00
2	Brass hollow screws, at $4 00	8 00
25	½-inch bolts and nuts, at 10 cents	2 50
68	Gum valves, at $1 25	85 00

FOR HOLLY FIRE HYDRANTS.

4	Wrought iron screws, covered with brass, for single nozzles, at $2 00	8 00
4	Wrought iron screws, covered with brass, for double nozzles, at $2 00	8 00
4	Cast iron valves for single nozzles, at $3 00	12 00
4	Cast iron valves for double nozzles, at $4 50	18 00
4	Cast iron valve seats for single nozzles, at $4 00	16 00
4	Cast iron valve seats for double nozzles, at $4 50	18 00
6	Cast iron glands for packing boxes, at $1 00	6 00
86	Cast iron ferrules to cover screws, at 5 cents	4 30
13	Cast iron top covers, at $1 50	19 50
	Amount carried forward	$1,156 01

MATERIALS AND FIXTURES ON HAND—Continued.

	Amount brought forward	$1,156 01
36	½-inch bolts, at 10 cents	3 60
1	Gum valve, at 50 cents	50
	FOR BOSTON FIRE HYDRANTS.	
6	½-inch bolts and nuts, at 15 cents	90
6	⅝-inch bolts and nuts, at 25 cents	1 50
	WHITTIER, OR BOSTON GATE SCREWS.	
12	6-inch iron screws, at $1 75	21 00
12	8-inch iron screws, at $2 25	27 00
12	10-inch iron screws, at $3 25	39 00
12	12-inch iron screws, at $4 50	54 00
12	20-inch iron screws, at $9 00	108 00
	EDDY, OR R. D. WOOD & CO., GATE SCREWS.	
10	6-inch iron screws, at $1 00	10 00
12	8-inch iron screws, at $1 30	15 60
3	10-inch iron screws, at $1 75	5 25
3	12-inch iron screws, at $1 85	5 55
	CHAPMAN GATE SCREWS.	
6	3-inch iron screws, at $1 75	10 50
1	4-inch iron screw, at $2 00	2 00
	BOSTON BRASS GATE SCREWS.	
9	6-inch brass screws, at $4 00	36 00
12	8-inch brass screws, at $4 50	54 00
1	4-inch gate of Thompson & West's make, not in order	12 00
	LUDLOW GATE SCREWS.	
2	6-inch brass screws, at $5 00	10 00
4	8-inch brass screws, at $5 50	22 00
	Amount carried forward	$1,594 41

MATERIALS AND FIXTURES ON HAND—Continued.

	Amount brought forward	$1,594 41
8	6-inch iron screws, at $6 00	48 00
18	8-inch iron screws, at $6 50	117 00

THOMPSON & WEST'S SCREWS FOR OLD GATES.

13	3-inch iron screws, at $3 25	42 25
9	4-inch iron screws, at $3 50	31 50
3	6-inch iron screws, at $3 85	11 55
4	8-inch iron screws, at $4 00	16 00
4	10-inch iron screws, at $4 60	18 40
4	12-inch iron screws, at $5 00	20 00
9	16-inch iron screws, at $6 00	54 00
9	18-inch iron screws, at $6 25	56 25

CAST IRON GLANDS FOR STUFFING BOXES, FROM 3 TO 12 INCHES.

46	Unfinished cast iron glands, from 3 to 12 inches, at 40 cents	18 40
32	Unfinished cast iron glands, from 16 to 18 inches, at 60 cents	19 20
26	Finished cast iron glands, from 4 to 8 inches, at 75 cents	19 50
39	Packing box bolts and nuts, at 25 cents	9 75
60	⅝-inch bolts and nuts, at 15 cents	9 00
17	lbs. ⅝-inch washers, at 6 cents	1 02
29	lbs. ¾-inch washers, at 6 cents	1 74
22	lbs. ¼-inch patent packing, at 20 cents	4 40
9	lbs. ½-inch patent packing, at 20 cents	1 80
15	lbs. ⅝-inch patent packing, at 20 cents	3 00
15	lbs. ¾-inch gum mixed packing, at 25 cents	3 75
37	lbs. 1-inch pure gum packing, at 80 cents	29 60
522	lbs. 1-inch hemp packing yarn, at 8 cents	41 76
185	½-inch packing box bolts, from 3 to 8 inches, at 20 cents	37 00
	Amount carried forward	$2,209 28

MATERIALS AND FIXTURES ON HAND—Continued.

	Amount brought forward	$2,209 28

CYPRESS TAPERING PLUGS FOR DRIVING IN THE END OF PIPES.

2	2x 4-inch plugs for driving in the end of pipes, at 40 cents	80
1	3x 4-inch plugs for driving in the end of pipes, at 45 cents	45
1	3x 7-inch plug for driving in the end of pipes, at 60 cents	60
3	5x10-inch plugs for driving in the ends of pipes, at 75 cents	2 25
4	3-inch plugs, straight, at 40 cents	1 60
2	6-inch plugs, straight, at 50 cents	1 00
1	8-inch plug, straight, at 60 cents	60

TOOLS IN THE WORKSHOP AT THE OFFICE.

1	Bench vise	5 00
4	Files, at 75 cents	3 00
1	Drill press	10 00
2	Bench hammers, at $1 00	2 00
3	Caulking hammers, at $2 00	6 00
11	Flat chisels, at $1 00	11 00
13	Caulking irons, at 75 cents	9 75
5	Cutting chisels, at $1 00	5 00
18	Diamond points, at 75 cents	13 50
1	Sledge hammer	2 00
2	Ladles, at $1 25	2 50
2	Pots and furnace	8 00
1	6-inch patent gasket with iron clamps, at $2 00	2 00
1	8-inch patent gasket with iron clamps, at $2 00	2 00
4	Wood axes, at $1 00	4 00
	Amount carried forward	$2,302 33

MATERIALS AND FIXTURES ON HAND—Continued.

	Amount brought forward	$2,302 33
4	Grub axes, at $1 00	4 00
6	Danger lanterns, at $2 00	12 00
2	Ship pumps, at $25 00	50 00
30	Feet 2½-inch suction hose, at 50 cents	15 00
10	Pickaxes, at 50 cents	5 00
3	Spades, at $1 00	3 00
6	Shovels, at $1 00	6 00
2	Paving rammers, at $5 00	10 00
5	Crowbars, at $2 00	10 00
4	Monkey wrenches, at $1 50	6 00
2	Pairs stock and dies, at $5 00	10 00
16	Stop cock keys, all sizes, at $1 50	24 00
1	Jack plane	75
4	Saws, at $1 00	4 00
1	Framing chisel	50
1	Steel square	75
2	Patent drilling machines with drills and taps, and gum packing for same	250 00
2	Old drilling machines and fixtures	20 00
1	Pair of scales	25 00
111	½-inch Milwaukee ferrules, at 87 cents	96 60
112	⅝-inch Milwaukee ferrules, at $1 10	123 20
78	¾-inch Milwaukee ferrules, at $1 60	124 80
8	⅝-inch Boston ferrules, at $1 10	8 80
8	¾-inch Boston ferrules, at $1 60	12 80
42	Morgan valve covers, at $4 00	168 00
136	Stop cock boxes, at 85 cents	115 60
	Cost of materials and tools at pumping station, as per inventory, $2029 25, valued at	800 00
	Furniture and safe in office	600 00
	Horse and buggy	350 00
		$5,158 13

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

1 Length 48-inch pipe.
6 Lengths 36-inch pipe.
22 Lengths 30-inch pipe.
2 Lengths 24-inch pipe.
3 Lengths 20-inch pipe.
7 Lengths 18-inch pipe.
9 Lengths 16-inch pipe.
27 Lengths 12-inch pipe.
20 Lengths 10-inch pipe.
37 Lengths 8-inch pipe.
79 Lengths 6-inch pipe.
102 Lengths 4-inch pipe.
68 Lengths 3-inch pipe.
3 36-inch sleeves.
1 30-inch sleeve.
1 24-inch sleeve.
2 18-inch sleeves.
3 16-inch sleeves.
13 12-inch sleeves.
15 10-inch sleeves.
15 8-inch sleeves.
18 6-inch sleeves.
25 4-inch sleeves.
30 3-inch sleeves.

Four Way Branches.

1 30x 8-inch four way branch.
1 20x10-inch four way branch.
1 20x 8-inch four way branch.
1 16x12-inch four way branch.
5 16x 8-inch four way branches.
5 4x 3-inch three way branches.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

5 16x 6-inch four way branches.
2 12x 8-inch four way branches.
4 12x 6-inch four way branches.
3 10x 3-inch four way branches.
3 10x 4-inch four way branches.
3 10x 6-inch four way branches.
3 10x 8-inch four way branches.
12 8x 8-inch four way branches.
8 8x 6-inch four way branches.
15 8x 4-inch four way branches.
16 6x 6-inch four way branches.
6 4x 4-inch four way branches.

THREE WAY BRANCHES.

5 30x12-inch three way branches.
2 36x 8-inch three way branches.
1 18x12-inch three way branch.
1 16x 8-inch three way branch.
2 12x 8-inch three way branches.
6 12x 6-inch three way branches.
3 10x 3-inch three way branches.
3 10x 4-inch three way branches.
2 10x 6-inch three way branches.
3 10x 8-inch three way branches.
1 10x10-inch three way branch.
1 8x 8-inch three way branch.
7 8x 6-inch three way branches.
5 8x 4-inch three way branches.
14 8x 3-inch three way branches.
8 6x 6-inch three way branches.
14 6x 4-inch three way branches.
9 6x 3-inch three way branches.
4 4x 4-inch three way branches.
4 3x 3-inch three way branches.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont'd.

8 8-inch cast iron plugs.
1 18-inch cast iron plug.
1 30-inch cast iron plug.
4 4 to 3-inch reducing pipes.
7 6 to 4-inch reducing pipes.
7 8 to 3-inch reducing pipes.
5 8 to 4-inch reducing pipes.
12 8 to 6-inch reducing pipes.
1 12 to 6-inch reducing pipe.
2 12 to 8-inch reducing pipes.
1 20 to 12-inch reducing pipe.
3 3-inch quarter bends.
25 4-inch quarter bends.
10 6-inch quarter bends.
10 8-inch quarter bends.
12 4-inch eighth bends.
11 6-inch eighth bends.
8 8-inch eighth bends.
2 30-inch eighth bends.
1 12-inch bevel bend.

CHAPMAN VALVES FOR STREET MAINS.

6 3-inch valves.
11 4-inch valves.
7 6-inch valves.
8 8-inch valves.
4 10-inch valves.

OLD STOCK OF VALVES.

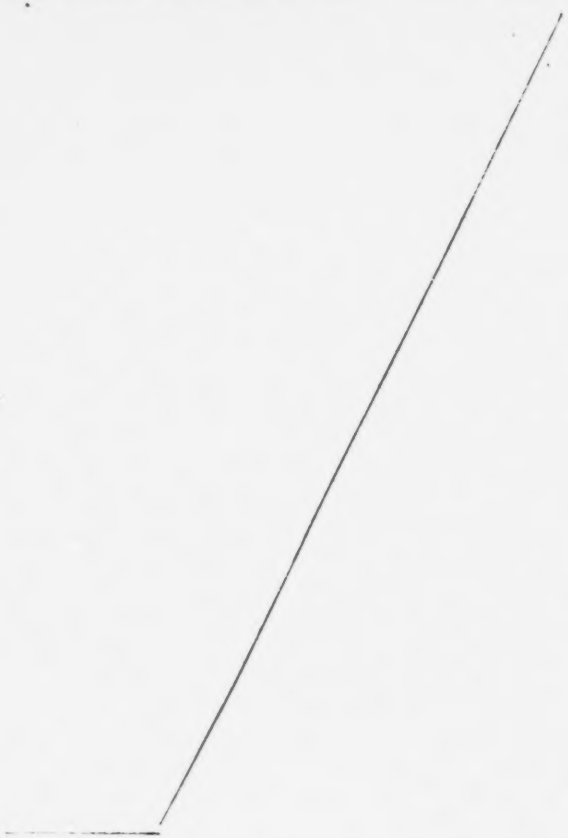
1 4-inch valve, Thompson & West.
3 8-inch valves, no value.
4 8-inch valves.
2 10-inch valves.
1 12-inch valve.
1 20-inch valve.

RECEIPTS AND DISBURSEMENTS

FOR YEAR ENDING APRIL 7TH, 1888.

CASH RECEIPTS FOR YEAR ENDING AND INCLUDING APRIL 7TH, 1888.

Cash on hand April 8th, 1887	$ 44,079	10
Cash received from water rates; from April 9th, 1887, to April 7th, 1888, inclusive	193,639	58
Cash received for materials sold and labor	3,505	32
Cash received for ashes sold	15	50
Cash received for plumbers' licenses	20	00



$241,259 50

CASH DISBURSEMENTS FOR YEAR ENDING AND INCLUDING APRIL 7th, 1888.

Pumping Service department:		
Wages and salaries, supplies and repairs	$ 12,127 49	
(Coal consumed $9,480 61.)		
Improvements and extensions:		
Materials, labor, etc.	3,778 04	
Hydrant Service department:		
Wages, salaries, etc.	8,850 54	
Office Department:		
Wages, salaries, etc.	8,504 50	
Street Service department:		
Wages and salaries, materials and repairs	6,932 05	
Water pipes, specials, etc., purchased	1,270 95	
Matured coupons paid	20,415 00	
Coal purchased	7,709 26	
State taxes 1887 paid	5,974 33	
City taxes 1887 paid	20,113 60	
Dividends paid	80,862 00	
Water rates refunded	475 57	
Miscellaneous expenses and petties	1,095 57	
Attorney's fees and court costs	4,217 15	
Interest account, balance	5 95	
Rent of office	1,200 00	
Telephones	230 00	
Keep of horse and buggy	345 55	
Printing and stationery	310 95	
Cash in bank	$56,748 25	
Petty cash in drawer	92 75	
	56,841 00	
		$241,259 50

GENERAL BALANCE. APRIL 7th, 1888.

ASSETS—

Invested capital	$ 2,000,000 00	
Cash on hand	56,841 00	
Materials and fixtures on hand	5,214 10	
Coal on hand	958 74	
Invested in improvements and extensions	412,891 60	
Due by U. S. Customhouse	1,200 02	
Due by U. S. Mint	250 00	
Cash deposited with N. O. Gas Light Co	10 00	
Due by Illinois Central Railroad Company	500 00	
Due by Mississippi Valley Railroad Company	1,150 00	
		$2,479,015 46
Bills for water rates in course of collection, not included in above assets		$ 6,275 00

GENERAL BALANCE, APRIL 7th, 1888.

LIABILITIES—

Capital stock	$2,000,000 00	
Bonds issued	395,000 00	
Dividends unpaid	729 00	
Coupons due and unpaid	7,920 00	
Profit and loss	75,366 46	
		$2,479,015 46

The above is a true and correct transcript from the books of the Company.

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, at New Orleans, La., this tenth day of April, A. D. 1888.

SEAL

A. S. BECK,
Notary Public.

ELEVENTH ANNUAL REPORT

OF THE

New Orleans Waterworks

COMPANY.

OFFICERS.

R. E. CRAIG,	President.
A. BALDWIN,	Vice-President.
L. H. GARDNER,	Superintendent.
R. L. MACMURDO,	Secretary and Treasurer.

DIRECTORS.

R. E. CRAIG,	By Stockholders.
A. BALDWIN,	"
H. ABRAHAM,	"
G. W. NOTT,	"
Hon. JOS. A. SHAKSPEARE, Mayor,	Ex-officio.
Hon. J. N. HARDY, City Treasurer,	"
Hon. THOS. A. AGNEW, Com. Public Buildings,	"

APRIL 1st, 1889.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.—45,149
1889.

PRESIDENT'S REPORT.

NEW ORLEANS, April 10th, 1889.

To the Board of Directors New Orleans Waterworks Company:

GENTLEMEN: — I submit for your consideration the following annual report:

Notwithstanding the continued vexatious litigation in which our company is involved with the city, we have continued to carefully perform our duties under the charter. With your approbation, I agreed with the city that if the Council would budget our contract for the current year, and have the City Attorney speed the cause so as to obtain an early decision from the Supreme Court, we would continue to supply the water contracted for and not call for our usual monthly payments until after said decision. A number of large consumers continue to draw water direct from the river, and we are contending with them in the United States Court for our rights under the decision of the Supreme Court of the United States; no final decision has been reached during the year in any of these cases. In May last you deemed it advisable to change the location of our office, and it was removed to our present quarters, Nos. 49 and 51 Baronne street, where the company now enjoys a well-lighted, commodious and newly furnished office, with a workshop on Common street conveniently near it. We have, during the year, continued our experiments and investigations looking to the commencement of work that will lead to an improved water supply, so soon as our status in the courts is fixed and our relations with the city well-defined, which we have reason to believe will not be long deferred. From investigations thus far made we conclude there is no system of filtration (now in operation) so well adapted to the use of Mississippi river water,

in the large quantity that we will require daily, as the system of "storage and settling basins," such as in use at Kansas City and Omaha. We are informed the water there is being delivered without use of coagulants or chemicals. Of course the construction of these basins, and the laying of the necessary pipes, and erection of new machinery, will require time and a large expenditure of money; yet, from conversations had with our largest stockholders, I feel confident the outlay will be readily approved. Clear water, paving and good drainage, go hand-in-hand; and together they will do much to improve this city. The paving and drainage question is now having active and appropriate attention, and the progress of the age demands that our citizens should enjoy both at an early period, and I feel sure this undertaking on the part of the company will result in great advantage to the public, and also prove to be a good investment for our stockholders.

The report of the Superintendent shows some few extensions of our main distribution. These extensions are made under charter provisions, which provide for an estimated revenue of ten per cent. from them. He does not report any new fire-hydrants placed; and I mention this that I may appropriately record the fact that on the St. Charles Avenue and Louisiana Avenue extensions made in 1886, there have been no fire-hydrants established; although I have repeated the liberal offer made to the city by my predecessor, to place hydrants on the line, free of charge to the city, until after the year 1889.

The financial condition of the company is shown by the accompanying report of the Secretary. On 3d inst. the usual semi-annual dividend of $2.00 per share was declared, payable 18th this month.

Respectfully submitted,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1st, 1889.

The President and Directors New Orleans Waterworks Company:

GENTLEMEN:—In connection with inventories of stock and materials on hand, detailed statement of work done, the engine record, etc., which I herewith hand you, I submit this, my annual report, for your further information.

PIPE LAID.

Extensions during past year consist of—

1000 feet of 3-inch pipe from main on Poet street along Morales street to the stables of the Canal and Claiborne Streets Railroad Company, laid in June.

348 feet 3-inch pipe from St. Charles street main, west, and on Constantinople street, laid in July.

700 feet 3-inch pipe from Upper Line street, along and down Prytania street, nearly to Valence, laid in July.

300 feet 4-inch pipe in extension on Esplanade avenue from Broad street, laid in July.

200 feet 4-inch pipe, west from St. Charles street on Union street, laid in October.

573 feet 4-inch pipe and 68 feet 3-inch pipe on Napoleon Avenue, east from St. Charles avenue, laid in December.

To this is to be added for record, 1700 feet 6-inch pipe on Jackson street, east from Magazine street, laid in July, 1883, and not noted in annual report.

Extension of mains has been made whenever the prospective revenue has warranted it, and every facility and influence the company can lend in this regard has been furnished.

REPAIRS.

In setting out rings in the cylinder of lower side of main engine last July, it was found that a new piston was absolutely necessary. The work was promptly and satisfactorily done by the Whitney Foundry.

In the same month the Knowles pump was overhauled, new brass springs furnished to the valves in water chamber, and the pump rod covered with copper. The pond beneath the house was filled, a new floor laid, and the interior of the house and boiler-room painted.

At about same time, about one-third of the coal-platform or floor was renewed. The cribs protecting inlet pipes have needed and received necessary repairs.

The customary regular examination of fire hydrants and fire wells has been maintained, together with the annual thorough blow-off of the entire distribution. No failure of water supply for public or private use has occurred during the year in any locality where the mains of the company extend, and the contract with the city and all the stipulations of the charter have been faithfully observed by the company.

THE PLANT

is in as good condition as at this date last year, including the reservoir, all the basins of which are in service. The general matter of the cure of "dead ends" which trouble us, inherent, perhaps, in all plants, should have attention when you make any general improvement, and be included therein.

The pumping station and garden and grounds are kept clean and attractive, and are worthy of your frequent visits.

METERS.

We now have twenty-two in use. These are provided and maintained *at the expense of consumers. The result of their use*, so far as shown, that when the same use or waste of water has followed their introduction as existed before, the water bills have largely increased. When the consumer has remembered the meter and economized, the bills have been smaller. In either case, the company has realized a benefit. When you adopt a system of supply, which to any extent eliminates the sediment in the river water, all large consumers should be metered.

In this connection, it may be appropriate for me to say, that in November last, you directed me to visit certain Western cities to examine the reservoirs and settling basins, recently constructed or in process of erection, with a view to adapting our prospective improvements to the latest and most successful practice. The report made on my return confirms, perhaps, your pre-existing views as to the general system which should be adopted in New Orleans. You now have the benefit of the results of the systems of several large works recently erected, without the doubt and expense which attend experiment.

FUEL.

Comparison with the reports of other water companies and departments shows that under conditions at all similar to ours, we are ahead as to economy. This economy has grown with us for several years, and the difference between the years 1882 and 1887, in the cost of fuel to this company, amounts to about forty-five hundred dollars per annum. The difference between the year now closed and the previous year is about $1700 in our favor.

Under your suggestions, the use of slack coal has been tried, but the difference in cost and results do not demonstrate any economy to be effected by its use, under existing surroundings and circumstances.

Diligent inquiry in the matter of the use of crude petroleum as a fuel, results in my being unable to report any probable saving to be accomplished by us at its present cost, whatever economy may be demonstrated from its use in special industries.

The inventory of materials and fixtures has been carefully made, and foots the sum of $6608 95, and is on file in the office. It has been deemed unnecessary to print the details of the inventory, but it is accessible to any who deem it worthy of examination.

Respectfully,

L. H. GARDNER,
Superintendent.

ENGINE RECORD. APRIL 8, 1888, TO MARCH 31, 1889.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds. Pumping	Banking	Total	Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate	Gallons Oil	Lbs Tallow	Pounds Cotton Waste	Total Gallons Pumped
1888														
April 9-30	89,691,000	56	897	.....	.....	25,948,131	555	.....	.....	.....	.....	.....	.....	.....
	42,188,380	30	254	35	1,186	22,996,803	919	.....	5.50	4 ft. 8 in	39	88	88	131,879,380
May	124,227,500	57	1,194	.....	.....	27,480,348	578	.....	.....	.....	.....	.....	.....	.....
	59,368,140	30	356	48	1,598	23,177,704	926	.....	6.	6 ft. 6 in	54	124	124	183,595,640
June	126,893,500	59	1,258	.....	.....	27,566,982	560	.....	.....	.....	.....	.....	.....	.....
	61,822,500	30	391	47	1,696	21,971,576	878	.....	7.	7 ft. 6 in	53	120	120	188,716,000
July	124,631,500	60	1,259	.....	.....	27,522,331	549	.....	.....	.....	.....	.....	.....	.....
	64,822,050	30	441	52	1,752	20,440,148	816	.....	7.	9 ft.	54	120	120	189,453,550
August	131,450,894	65	1,347	.....	.....	29,373,260	542	.....	.....	.....	.....	.....	.....	.....
	65,673,500	30	449	59	1,855	20,310,890	813	....	6 50	13 ft. 10 in	55	124	126	197,124,394
Sept.....	129,096,622	64	1,245	.....	.....	30,734,283	576	.....	.....	.....	.....	.....	.....	.....
	71,594,520	30	467	52	1,764	21,324,939	852	.....	7.	13 ft. 3 in	56	120	122	200,691,142
Oct	142,071,220	66	1,363	.....	.....	31,880,017	579	.....	.....	.....	.....	.....	.....	.....
	72,026,000	30	467	55	1,885	21,427,949	856	.....	7.	15 ft. 5 in	55	124	126	214,097,220
Nov.....	131,566,872	65	1,346	.....	.....	29,406,441	543	.....	.....	.....	.....	.....	.....	.....
	66,153,820	30	453	65	1,864	20,283,928	810	.....	6.	13 ft. 2 in	61	124	124	197,720,692
Dec	123,893,000	64	1,259	.....	.....	29,183,198	546	....	.....	.....	.....	.....	.....	.....
	63,569,500	30	455	50	1,764	19,396,449	774	.....	8.	12 ft. 9 in	53	124	124	187,462,500
Jan. 1889..	125,083,000	62	1,249	.....	.....	28,771,311	556	.....	.....	.....	.....	.....	.....	.....
	58,639,460	30	392	48	1,689	20,810,912	831	.....	6.50	10 ft. 9 in	55	125	125	183,722,460
Feb	106,360,000	59	1,020	.....	.....	28,505,780	579	.....	.....	.....	.....	.....	.....	.....
	47,997,200	30	312	44	1,376	21,406,238	855	.....	6.	7 ft. 6 in	49	112	112	154,357,200
March	121,119,626	59	1,150	.....	.....	28,777,461	584	.....	.....	.....	.....	.....	.....	.....
	54,213,640	30	357	50	1,557	21,128,119	844	.....	6.	7 ft. 5 in	55	124	127	175,333,266
Totals & Averages.	2,204,153,444	61	19,381	605	19,986	.....	562	.....	6.50	.....	639	1429	1438	2,204,153,444
		30				.....	848	.....	.....	.....	.....	.....	.....	.....

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	741	
Holly	140	
Under-ground	132	
Mathew	63	
Iron case	40	
Boston	5	
		1,121
Fire-wells		51
Blow-offs		23
		1,195
Main stop cocks or gates		556

DISTRIBUTION—CAST-IRON PIPES.

3-inch	32,600 ft.	10-inch	23,600 ft.	20-inch	2300 ft.
4-inch	70,536 ft.	12-inch	8,375 ft.	24-inch	2400 ft.
6-inch	96,611 ft.	16-inch	21,175 ft.	30-inch	16,100 ft.
8-inch	102,212 ft.	18-inch	16,400 ft.	36-inch	3,600 ft.

Or say, 75 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST FIVE YEARS.

MEAN TEMPERATURE.

	1884	1885	1886	1887	1888	1889
January	47	52	39	51	56	51
February	61	53	42	65	59	52
March	65	58	58	62	60	58
April	68	70	65	68	70	
May	76	74	72	75	73	
June	79	82	79	78	77	
July	85	83	80	80	81	
August	82	75	81	81	75	
September	81	72	78	77	75	
October	74	56	69	69	68	
November	60	51	59	61	62	
December	59	46	51	53	51	

RAIN FALL.

	1884	1885	1886	1887	1888	1889
January	4.35	9.70	7.53	4.26	3.29	6.51
February	3.16	2.39	1.96	5.58	11.21	2.78
March	8.24	6.99	8.41	3.57	6.45	3.86
April	6.48	3.67	5.60	1.87	1.89	
May	4.33	5.77	3.07	3.99	9.75	
June	8.60	3.30	9.30	11.33	9.09	
July	1.12	6.15	4.35	7.85	2.04	
August	.87	4.25	2.40	7.42	22.74	
Septemb'r	3.12	13.55	4.09	6.51	4.15	
October	5.60	.56	.22	4.71	7.36	
November	3.13	3.47	5.33	.52	1.50	
December	8.01	4.38	2.57	7.56	3.68	

WORK DONE AND MATERIALS USED IN STREET SERVICE.

5 Leaks on 36-inch main pipes.
20 Leaks on 30-inch main pipes.
158 Leaks on main pipes, from 3-inch to 20-inch.
4 Broken main pipes replaced with new lengths.
1 Broken cement main pipe repaired.
18 Service pipes repaired by plumbers, ditches dug by company.
4 Service pipes stop cocks dug for and found.
5 Service pipes cut and plugged.
12 Ferrules drawn from main pipe.
237 Leaking stop cocks repaired.
21 Stop cocks furnished with new screws—all sizes.
21 Stop cocks, packing renewed.
84 Stop cocks, joints caulked.
400 Wooden cased fire hydrants repaired.
24 Under-ground fire hydrants repaired.
20 Philadelphia fire hydrants repaired.
40 Mathew fire hydrants repaired.
35 Holly fire hydrants repaired.
1 Under-ground fire hydrant taken out and replaced with wooden cased fire hydrant.
400 Leaks on fire hydrants repaired.
4 Cypress cases under-ground fire hydrants.
78 Cypress cases and covers, with hinges for fire hydrants.
81 Cypress staves, with new hooks on broken fire hydrant cases.
114 Cypress bottom staves on broken fire hydrant cases.
80 Wrought-iron middle bands on broken fire hydrant cases.
111 Wrought-iron bottom bands on broken fire hydrant cases.
81 Wrought-iron hooks on broken fire hydrant cases.
6 Cast-iron covers, with hinges, where broken on fire hydrant cases.
4 Cast-iron covers, with hinges, where broken on Philadelphia fire hydrant cases.

Work Done and Materials Used in Street Service—Continued.

6 Cast-iron cases broken and repaired on Philadelphia fire hydrants.
3 New boiler iron covers on frames on under-ground fire hydrant.
75 Joints renewed on fire hydrants.
400 Joints caulked on fire hydrants.
400 Packing renewed on fire hydrants.
75 Wrought-iron rods for wooden cased fire hydrants.
7 Wrought-iron rods for Philadelphia fire hydrants – long.
2 Wrought-iron rods for Philadelphia fire hydrants—short.
8 Wrought-iron rods for under-ground fire hydrants.
16 Copper rods for under-ground fire hydrants.
75 Wrought-iron screws, with clamps for wooden cased fire hydrants.
25 Wrought-iron screws, without clamps for under-ground fire hydrants.
75 Wrought-iron stirrups and nuts (long) for fire hydrants.
75 Wrought iron stirrups and nuts (short) for fire hydrants.
150 Wrought-iron keys for screws of fire hydrants.
75 Wrought-iron buttons for fire hydrants.
75 Wrought-iron slats for fire hydrants.
24 Brass nuts for screws of under-ground fire hydrants.
8 Brass nozzles for fire hydrants.
150 Cast-iron valve flanges (small) for fire hydrants.
150 Cast-iron valve flanges (large) for fire hydrants.
75 Gum valves.
12 Feet 6-inch iron pipe to protect wooden cased fire hydrants.

Materials Used to Repair Mathew Fire Hydrants.

3 Hollow brass nuts for opening and closing fire hydrants.
13 Cast-iron top nuts to secure hollow brass nuts.
7 Half-inch bolts and nuts to fasten top cover.

Work Done and Materials Used in Street Service—Continued.

6 Gum valves.
35 Joints caulked.
35 Packing renewed.
518 lbs. pig lead.
30 lbs. hemp packing yarn.
400 Barrels coal.

Placing New Stop Cocks on Street Mains.

1 3-inch Thompson & West iron screws.
2 4-inch Thompson & West iron screws.
4 6-inch Thompson & West iron screws.
4 8-inch Thompson & West iron screws.
1 16-inch Thompson & West iron screws.
3 18-inch Thompson & West iron screws.
2 6-inch Eddy's iron screws.
1 8-inch Ludlow iron screw.
1 8-inch Chapman's iron screw.
1 6-inch Chapman's brass screw.
1 8-inch Boston brass screw.
112 $\frac{3}{4}$ inch packing box bolts and nuts.
75 lbs. $\frac{3}{4}$ inch iron washers.
25 lbs. 1-inch iron washers.
42 Packing box bolts and nuts.
4 Gland or packing box caps.
4 Cypress cases for main stop cocks.
6 Cypress frames for main stop cocks.
84 Joints caulked.
21 Packing renewed.

Broken Pipes Replaced with New Lengths.

3 Lengths 3-inch pipe.
3 Lengths 4-inch pipe.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

1 Length 6-inch pipe.
1 Length 8-inch pipe.
3 3-inch sleeves.
3 4-inch sleeves.
1 6-inch sleeve.
1 8-inch sleeve.
4 3-inch quarter bends.
5 Holes drilled.

FOR REPAIRS OF HOLLY FIRE HYDRANTS.

35 Repaired.
29 Cast-iron valves.
29 Cast-iron valve seats.
2 Cast-iron ferrules to cover screws.
11 Cast-iron top covers.
1 Cast-iron Gland.
29 Wrought-iron screws, covered with brass.
85 New $\frac{1}{2}$ inch bolts.
33 New $\frac{5}{8}$ inch bolts and nuts.
35 Joints caulked.
35 Packing renewed.
29 Gum valves.

NEW CHAPMAN VALVES USED ON FIRE WELLS AND ON STREET MAINS.

1 New 4-inch Chapman valve.
1 New 6-inch Chapman valve.
2 New 8-inch Chapman valve.
1 Cast-iron frame and cover, oblong, for main stop cock.
1 Cypress case for main stop cock.
1 Cypress frame for main stop cock.

5 feet 8-inch pipe.
1 8-inch sleeve.
1 New fire well, cast-iron round cover.
140 lbs. of pig lead.
30 lbs. of packing yarn.
2840 yards paving for all street service repairs.
1195 yards flagging for all street service repairs.
862 yards bricking for all street service repairs.
800 Loads cinders.
100 Loads river sand.

MATERIALS USED IN IMPROVEMENTS AND EXTENSIONS.

1 3 x 3 inch three way branch.
2 4 x 3 inch three way branch.
1 4 x 4 inch three way branch.
1 6 x 4 inch three way branch.
1 8 x 3 inch three way branch.
1 8 x 4 inch three way branch.
1 4 x 3 inch reducing pipe.
184 Lengths 3-inch pipes.
86 Lengths 4-inch pipes.
4 3-inch sleeves.
1 4-inch sleeve.
1 6-inch sleeve.
2 8-inch sleeves.
3 3-inch valves.
3 4-inch valves.
2 3-inch eight bends.
8 3-inch quarter bends.
4 4-inch quarter bends.
1 4-inch goose neck.
2 3-inch Cypress plugs.
2 4-inch Cypress plugs.

1795 lbs. pig lead.
60 lbs. hemp packing yarn.
1486 lbs. Coal.
6 Bingham & Morgan frames and covers for the street.
1 Fire hydrant
1 Cypress case and cover with hinges.
132 yards stone paving.
10 yards asphalt paving.
440 feet 4 x 3 inch scantling.

PRIVATE WORK DONE AND MATERIALS USED THEREIN.

3 Lengths 3-inch pipe.
26 Lengths 4-inch pipe.
2 Lengths 8-inch pipe.
1 3 x 3 inch three way branch.
1 4 x 4 inch three way branch.
1 8 x 4 inch three way branch.
1 3-inch Chapman valve.
4-inch Chapman valve.
1 8-inch Chapman valve.
2 3-inch sleeves.
1 4-inch sleeve.
8 8-inch sleeves.
4-inch quarter bends.
1 4-inch saddle.
1 8-inch saddle.
4 Bingham & Morgan's frames and covers.
744 lbs. pig lead.
35 lbs. packing yarn.
555 lbs. coal.
91 Yards paving.

WORK DONE FOR PLUMBERS AND MATERIALS USED.

15 ½ inch ferrules.
27 ⅝ inch ferrules.
48 ¾ inch ferrules.
90 Holes drilled and tapped.
51 Ditches dug.
126 yards paving renewed.
25 Yards paving for plumbers.
285 lbs. pig lead.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

111 Lengths 3-inch pipe.
93 Lengths 4-inch pipe.
109 Lengths 6-inch pipe.
34 Lengths 8-inch pipe.
19 Lengths 10-inch pipe.
26 Lengths 12-inch pipe.
9 Lengths 16-inch pipe.
7 Lengths 18-inch pipe.
3 Lengths 20-inch pipe.
2 Lengths 24-inch pipe.
24 Lengths 30-inch pipe.
7 Lengths 36-inch pipe.
1 Length 48 inch pipe.
200 feet in short lengths of various sizes.
3 Reducers, 4 to 3-inch.
7 Reducers, 6 to 4-inch.
7 Reducers, 8 to 3-inch.
5 Reducers, 8 to 4-inch.
12 Reducers, 8 to 6-inch.
1 Reducer, 12 to 6-inch.
2 Reducers, 12 to 8-inch.

Stock on Hand for Improvements and Extensions Continued.

1 Reducer, 20 to 12-inch.
20 3-inch sleeves.
17 4-inch sleeves.
15 6-inch sleeves.
5 8-inch sleeves.
15 10-inch sleeves.
12 12-inch sleeves.
4 16-inch sleeves.
2 18-inch sleeves.
1 30-inch sleeve.
3 36-inch sleeves.

Three Way Branches.

8 3 x 3 x 3 three way branches.
7 4 x 4 x 3 three way branches.
5 4 x 4 x 4 three way branches.
9 6 x 6 x 3 three way branches.
13 6 x 6 x 4 three way branches.
6 6 x 6 x 6 three way branches.
13 8 x 8 x 3 three way branches.
11 8 x 8 x 4 three way branches.
5 8 x 8 x 6 three way branches.
5 8 x 8 x 8 three way branches.
3 10 x 10 x 3 three way branches.
3 10 x 10 x 4 three way branches.
2 10 x 10 x 6 three way branches.
3 10 x 10 x 8 three way branches.
1 10 x 10 x 10 three way branch.
6 12 x 12 x 6 three way branches.
2 12 x 12 x 8 three way branches.
1 16 x 16 x 8 three way branch.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

5 30 x 30 x 12 three way branches.
2 36 x 36 x 8 three way branches.

FOUR WAY BRANCHES.

15 4 x 4 x 4 x 4 four way branches.
16 6 x 6 x 6 x 6 four way branches.
14 8 x 8 x 4 x 4 four way branches.
8 8 x 8 x 6 x 6 four way branches.
12 8 x 8 x 8 x 8 four way branches.
8 10 x 10 x 3 x 3 four way branches.
3 10 x 10 x 4 x 4 four way branches.
8 10 x 10 x 6 x 6 four way branches.
3 10 x 10 x 8 x 8 four way branches.
4 12 x 12 x 6 x 6 four way branches.
2 12 x 12 x 8 x 8 four way branches.
5 16 x 16 x 6 x 6 four way branches.
5 16 x 16 x 8 x 8 four way branches.
1 16 x 16 x 12 x 12 four way branch.
1 20 x 20 x 8 x 8 four way branch.
1 20 x 20 x 10 x 10 four way branch.
1 30 x 30 x 8 x 8 four way branch.
12 3-inch quarter bends.
16 4-inch quarter bends.
9 6-inch quarter bends.
8 8-inch quarter bends.
12 3-inch eighth bends.
12 4-inch eighth bends.
10 6-inch eighth bends.
13 8-inch eighth bends.
1 12-inch eighth bends.
2 30-inch eighth bends.
31 Morgan cases for main gates.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

17 Holly fire hydrants.
27 Wood cased fire hydrants.
43 Covers for cased fire hydrants.
6 3-inch Chapman valves.
8 4-inch Chapman valves.
11 6-inch Chapman valves.
10 8-inch Chapman valves.
2 10-inch Chapman valves.
1 10-inch R. D. Wood valve.
1 12-inch R. D. Wood valve.
1 20-inch McGuire valve.
8 8-inch old style valve.

4178

RECEIPTS AND DISBURSEMENTS

FOR YEAR ENDING MARCH 31st. 1889.

CASH RECEIPTS FOR YEAR ENDING MARCH 31st, 1889.

Cash on hand April 9th, 1888	$ 56,841 00
Cash received from Water rates; from April 9th, 1888, to March 31st, 1889, inclusive	173,889 91
Cash received for materials sold and labor	3,949 69
Cash received for ashes sold	6 00
Cash received for interest on deposit in New Orleans Gas Light Company	6 00
	$234,692 60

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31st, 1889.

Improvements and Extensions:		
Wages, labor and materials, etc.	3,465 08	
Pumping Service Department:		
Wages, supplies, repairs, etc.	12,295 17	
Hydrant Service Department:		
Wages, salaries, etc.	7,804 05	
Office Department:		
Wages, salaries, etc.	6,852 15	
Street Service Department:		
Wages, salaries, repairs, etc.	5,239 33	
Water pipes, specials, etc., purchased	1,316 45	
Matured coupons paid	19,620 00	
Coal purchased	7,717 99	
State taxes for 1888 paid	6,358 15	
City taxes for 1888 paid	21,405 78	
Dividends paid	79,094 00	
Water rates refunded	446 82	
Meter account, balance	105 00	
Suspense account	4,602 53	
Attorney's fees and court costs	5,087 40	
Rent of office and shop	1,225 00	
Stationery and printing	315 30	
Telephones	230 00	
Miscellaneous and petty expenses	577 54	
Keep of horse and buggy	319 25	
Cash in bank and petty cash	50,615 61	
		$234,692 60

GENERAL BALANCE, MARCH 31st, 1889.

ASSETS

Invested capital	$2,000,000 00	
Cash on hand	50,615 61	
Materials and fixtures on hand	6,311 25	
Coal on hand	1,401 84	
Invested in improvements and extensions	414,269 56	
Cash deposited with New Orleans Gas Co.	10 00	
Suspense account	4,602 53	
Bills receivable	1,938 45	
Due by U. S. Customhouse	1,200 02	
Due by U. S. Mint	750 00	
Due by Illinois Central Railroad Company	728 58	
Due by Mississippi Valley Railroad Company	600 00	
Due by City of New Orleans, January, February and March	17,100 00	
		$2,499,527 84
Bills for water rates in course of collection, not included in above assets		$ 9,244 59

GENERAL BALANCE, MARCH 31st, 1889.

LIABILITIES—

Capital stock	$2,000,000 00	
Bonds issued	395,000 00	
Dividends unpaid	1,635 00	
Coupons due and unpaid	150 00	
Profit and loss	102,742 84	
		$2,499,527 84

The above is a true and correct transcript from the books of the company.

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

The above and foregoing sworn to and subscribed before me, notary, this eleventh of April, A. D., 1889, at New Orleans, Louisiana.

(SEAL)

A. S. BECK,
Not. Pub.

4178

TWELFTH ANNUAL REPORT

OF THE

New Orleans Waterworks

COMPANY.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
H. ABRAHAM,	"
G. W. NOTT,	"
HON. JOS. A. SHAKSPEARE, MAYOR,	EX-OFFICIO.
HON. J. N. HARDY, CITY TREASURER,	"
HON. THOS. A. AGNEW, COMMISSIONER PUBLIC BUILDINGS,	"

APRIL 1st. 1890.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.
1890.

PRESIDENT'S REPORT.

NEW ORLEANS, April 2, 1890.

To the Board of Directors New Orleans Waterworks Company:

Gentlemen—I herewith submit the report of the superintendent, giving history of the work done by the company during past twelve months, and that of the secretary, giving the financial statement for the same period.

The suit affecting the contract with the city has been decided in favor of the company by the Supreme Court of the State. From this decision the city and committee of one hundred have taken a "writ of error" to the Supreme Court of the United States, and upon our motion to "dismiss or affirm" the case was postponed to come up on its merits. This delay prevents the speedy consummation of an agreement with the National Water Purifying Company looking to the erection of a filter plant in connection with this company, as it is not deemed advisable to make so large an outlay for improvements until this suit is decided.

This delay is a matter of serious regret, as we are anxious to secure an improved character of water for our customers, and get rid of the sediment which tends to clog the flow in our mains at time of fires. Nothwithstanding the turmoil incident to prolonged and harassing litigation, the affairs of the company continue in good condition, and there are now several hundred more hydrants in use than at this date last year.

The report of the secretary justifies the customary semi-annual dividend.

Respectfully submitted,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 2, 1890.

President and Directors New Orleans Waterworks Company :

Gentlemen—I herewith hand you the usual tabulated statements of the work done in the pumping and street departments during the past year. The demand upon our service has been very largely increased during the year, and to such an extent that it has been deemed proper to abandon gravity supply at night and to maintain continuous pumping. This departure was inaugurated on January 1st. The increased demand is shown in the pumping of 627 million gallons more than during the previous year, and explains in part the increased cost of pumping service.

A revision, improvement and addition to our pumping machinery is needed, in order to the economical pursuance of continuous pumping. Previous conditions and practice were adapted to the intermittent system; but, aside from this, our machinery is all of it pretty well worn.

The water supplied has been in the greatest abundance, both for public and private use. The matter of supply for extinguishing fires has recently been the subject of investigation by the City Council and by a committee of the Board of Underwriters, and utter failure has attended every effort to show this company derelict in its duty as that duty is defined in its charter and in its contract with the city.

REPAIRS.

Aside from the usual character of street repairs it has been necessary to replace the tubes in the boilers of the Knowles pump. The pump itself needs overhauling again and will receive proper

4179

attention a little later. The reservoir has required more than usual repairs, and could not be economically maintained much longer if kept in active use. Under the system of continuous pumping its use will be nominal. The cost of repairs on it during past two months has been about $400, and cleaning costs not less than $600 per annum. From time to time the main engine and the old engine have required and received attention, but no repairs of any magnitude have been put upon them.

Quite recently a crack was developed in the force main (flange pipe), nearly under the stand pipe, and extending about half way round. It has been repaired by the use of a bolted reinforcing flange of 5-16 boiler iron.

PIPE LAID.

594 feet 3-inch pipe on Chestnut, from Third to Washington street, laid in May, 1889.

740 feet 3 inch pipe on Third street, from Magazine to Chestnut, laid in July, 1889.

330 feet 4-inch pipe on Fourth street, from St. Charles to Carondelet, laid in July, 1889.

864 feet 3-inch pipe on Second street, from Prytania to Chestnut, and on Chestnut, between Second and Third, laid in July, 1889.

720 feet 8-inch pipe on lower side of Canal street, from Bourbon to Burgundy, laid in August, 1889.

725 feet 3-inch pipe on Second street, from Chestnut to Magazine, laid in August, 1889.

780 feet 3-inch pipe on Eighth street, from Prytania to Chestnut, laid in September, 1889.

800 feet 4-inch pipe on Prytania street, from Jackson to First, laid in September, 1889.

2955 feet 6 inch pipe on St. Charles avenue, from Peters to Calhoun, laid in December, 1889.

218 feet 8 inch pipe on Magazine street, between St. Mary and St. Andrew, laid in January, 1890.

Total pipe laid, 8726 feet; cost, $7311.82.

During the past year thirteen fire hydrants have been added to the city contract, and they have been located by direction of the city council on St. Charles avenue, between Sixth and Peters avenue.

At the request of several residents of Canal street a thorough canvass of that street was made, from Claiborne to Broad, in the month of February. This was the third effort to obtain the necessary patronage for an extension of our mains on that street, and it resulted in failure, less than 4 per cent. of cost being offered.

IN GENERAL.

The number of open hydrants or services has been increased during the year by 383. The difference in cost of maintenance or running expenses is greater only by $3250.

The quantity of water pumped is 2,831,652,454 gallons, against 2,204,153,444 gallons in previous year, an excess of 627,499,010 gallons, or 28½ per cent.

The year has been a very dry one, the rain-fall having been approximately one-half that of the previous year. A very large part of the excess of water pumped has been for the gratuitous relief of sufferers from the protracted drouths which have been almost continuous.

Water rate collections amount to $218,245.13, as against $173,889.91 for previous year. Of this difference $17,100 is a part of the deferred payment by the city for previous year, leaving $27,255.22 as the increase of collected revenue for the year. The amount collected for water rates is the largest of any year since the plant has been in existence.

Respectfully,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, APRIL 1, 1889, TO MARCH 31, 1890.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds. Pumping	Banking	Total	Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate	Gallons Oil	Lbs Tallow	Pounds Cotton Waste	Total Gallons Pumped
1889														
April	129,673,500	60	1,243			28,994,021	579							
	54,587,060	30	398	48	1,689	19,021,841	760		6.	8 ft. 9 in	52½	123	120	184,260,560
May	174,226,234	64	1,836			28,146,184	527							
	68,576,500	30	528	55	2,419	18,022,941	720	8.56	7.	11 ft. 9 in	70⅜	148	142	242,802,734
June	151,221,862	64	1,737			25,779,680	483							
	74,332,388	30	574	81	2,392	17,986,425	719	7.75	9.	11 ft. 6 in	75	134	139	225,554,250
July	142,180,420	61	1,523			26,379,601	518							
	69,288,720	30	518	50	2,091	18,541,216	741	7.75	9.	9 ft. 6 in	55¾	124	126	211,469,140
August	154,324,080	64	1,686			27,149,644	508							
	76,433,280	30	564	51	2,301	18,822,447	752	7.57	9.	12 ft. 4 in	54¼	124	124	230,757,360
Sept	144,569,142	66	1,559			28,349,354	515							
	78,293,244	30	607	47	2,213	17,938,617	717	7.78	8¾.	14 ft. 8 in	54	116	122	222,862,386
Oct	161,271,200	67	1,619			20,903,688	553							
	77,563,180	30	576	91	2,286	18,695,864	747	8.58	6¾.	15 ft. 8 in	72⅜	126	152	238,834,440
Nov	144,151,752	67	1,471			31,025,601	544							
	68,865,780	30	508	92	2,071	18,851,442	731	8.49	6.	15 ft. 5 in	58¼	132	127	213,017,532
Dec	155,149,322	72	1,613			32,092,340	534							
	82,294,780	30	615	100	2,328	18,583,171	742	8 49	6.	11 ft. 3 in	64¾	130	137½	237,444,102
Jan. 1890	177,070,550	68	1,921			29,048,670	512							
	116,130,760	50	1,043	66	3,030	25,786,223	618	8.46	5¾.	9 ft. 8 in	86½	139	143¼	293,201,310
Feb	157,218,009	60	1,680			26,015,835	519							
	103,118,660	50	956	52	2,688	24,981,679	599	8.24	7.	3 ft. 4 in	77	112	112	260,336,660
March	155,330,780	65	1,838			25,447,209	469							
	115,781,200	50	1,368	28	3,234	19,610,382	470	8.15	6.	2 ft. 7 in	85	128	129	271,111,980
Totals & Averages.	2,831,652,454		27,981	761	28,742			8.17	7.18		806	1536	1574	2,831,652,454

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	748	
Holly	153	
Underground	127	
Mathew	63	
Iron case	38	
Boston	5	
		1134
Fire wells		51
Blow offs		23
		1,208
Main stop cocks or gates		577

DISTRIBUTION—CAST-IRON PIPES.

3-inch	36.303 ft.	10-inch	23.600 ft.	20-inch	2.300 ft.
4-inch	71.666 ft.	12-inch	8.375 ft.	24-inch	2.400 ft.
6-inch	99.566 ft.	16-inch	21.175 ft.	30-inch	16.100 ft.
8-inch	103.150 ft.	18-inch	16.400 ft.	36 inch	3.600 ft.

Or say, 76.63 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST SIX YEARS.

MEAN TEMPERATURE.								RAIN FALL.							
	1884	1885	1886	1887	1888	1889	1890		1884	1885	1886	1887	1888	1889	1890
Jan	47	52	39	51	56	51	65	Jan	4.35	9.70	7.53	4.26	3.29	6.51	.66
Feb	61	53	42	65	59	52	64	Feb	3.16	2.39	1.96	5.58	11.21	2.78	2.27
March	65	58	58	62	60	58	62	March	8.24	6.99	8.41	3.37	6.45	3.86	1.45
April	68	70	65	68	70	70	.....	April	6.48	3.67	5.60	1.87	1.89	2.28	.....
May	76	74	72	75	73	74	.....	May	4.33	5.77	3.07	3.99	9.75	1.17	.....
June	79	82	79	78	77	78	.....	June	8.60	3.30	9.30	11.33	9.09	7.62	.....
July	85	83	80	80	81	83	.....	July	4.12	6.15	4.55	7.85	2.04	9.13	.....
August	82	75	81	81	75	81	.....	August	.87	4.25	2.40	7.42	22.74	5.59	.....
Sept	81	72	78	77	75	79	.....	Sept	3.12	13.55	4.09	6.51	4.15	6.40	.....
Oct	74	66	69	69	68	70	.....	Oct	5.60	.56	.22	4.71	7.36	.26	.....
Nov	60	51	59	61	62	59	.....	Nov	3.13	3.47	5.33	.52	1.70	2.18	.....
Dec	59	46	51	53	51	64	.....	Dec	8.01	4.38	2.57	7.56	3.68	.67	.....

41793

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIRS.

2 Leaks on 48-inch main pipe.
1 Leak on 36-inch main pipe.
32 Leaks on 30-inch main pipe.
284 Leaks on main pipes, from 3-inch to 24-inch.
11 Broken main pipes replaced with new lengths.
1 Broken main pipe cement repaired.
1 Service pipe repaired by the company.
2 Service pipes stop cocks dug for and found.
5 Service pipes cut and plugged.
2 Service pipes 3-inch cut and plugged.
1 Service pipe 4-inch cut and plugged.
12 Ferrules drawn from main pipe and holes plugged.
3 Ferrules replaced in main pipe.
3 ¾ inch ferrules for new service on Dryades, near Delord street.
190 Leaking stop cocks repaired.
192 Leaking stop cocks packing renewed.
192 Leaking stop cocks joints caulked.
547 Wooden-cased leaking fire hydrants repaired.
37 Underground leaking fire hydrants repaired.
44 Philadelphia leaking fire hydrants repaired.
125 Holly leaking fire hydrants repaired.
12 Mathew leaking fire hydrants repaired.
2 Boston leaking fire hydrants repaired.
2 New Holly fire hydrants replaced for broken ones.
2 Philadelphia fire hydrants removed and replaced with wooden-case fire hydrants.
6 Underground fire hydrants removed and replaced with wooden-cased fire hydrants.
1 Wooden-cased fire hydrant removed and replaced with underground fire hydrant.
2 Broken wooden-cased fire hydrants replaced with new fire hydrants.

Work Done and Materials Used in Street Service—Continued.

143 Wrought iron rods for wooden-cased fire hydrants.
15 Wrought iron rods for Philadelphia fire hydrants.
10 Wrought iron rods for underground fire hydrants.
18 Copper rods for underground fire hydrants.
143 Wrought iron screws, with clamps, for wooden-cased fire hydrants.
15 Wrought iron screws, without clamps, for underground fire hydrants.
50 Wrought iron stirrups and nuts (long), for fire hydrants.
235 Wrought iron stirrups and nuts (short), for fire hydrants.
296 Wrought iron keys for fire hydrants.
186 Wrought iron buttons for fire hydrants.
186 Wrought iron slats for fire hydrants.
29 Brass nuts for underground fire hydrants.
87 Brass nozzles for fire hydrants.
186 Cast iron valve flanges (small) for fire hydrants.
186 Cast iron valve flanges (large) for fire hydrants.
186 Gum valves.

For Repairs of Holly Fire Hydrants.

137 Repaired.
62 Cast iron valves.
62 Cast iron valve seats.
16 Cast iron ferrules to cover screws.
8 Cast iron top covers.
2 Cast iron glands.
62 Wrought iron screws, covered with brass.
62 Gum valves.
141 ½ inch bolts.
20 ⅝ inch bolts and nuts.
137 Joints caulked.
137 Packing renewed.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

2 4 inch ¼ bends.
1 Top cover in place one broken.
39 Wrought iron bottom bands for broken cases.
100 Wrought iron middle bands for broken cases.
10 yards Schillinger pavement.

REPAIRS TO MATHEW FIRE HYDRANTS.

3 Hollow brass nuts for opening Mathew fire hydrants.
3 Cast iron top nuts.
3 Gum valves.
7 ½ inch bolts and nuts.
12 Joints caulked.
12 Packing renewed.

REPAIRS TO BOSTON FIRE HYDRANTS.

2 Gum valves.
2 Joints caulked
2 Packing renewed.

BROKEN MAIN PIPES REPAIRED WITH NEW LENGTHS.

6 Lengths 4 inch pipes.
1 Length 6 inch pipes.
2 Lengths 8 inch pipes.
2 Lengths 10 inch pipes.
6 4 inch sleeves.
1 6 inch sleeve.
2 8 inch sleeves.
2 10 inch sleeves.
4 Holes drilled.
2 ¾ inch ferrules.
2 ¾ inch ferrules.
342 pounds pig lead.
10 pounds hemp packing.

Work Done and Materials Used in Street Service—Continued.

50 Barrels coal.
90 yards paving.
12 Loads cinders.
3 Cypress cases for underground fire hydrants.
23 Cypress cases and covers with hinges.
128 Cypress staves with new hook on broken cases.
9 Cast-iron covers with hinges replaced where broken.
20 Philadelphia covers with hinges replaced where broken.
5 Philadelphia covers with hooks replaced where broken.
4 Underground frames and covers replaced where broken.
547 Leaks on fire hydrants repaired.
547 Joints caulked on fire hydrants.
140 Joints renewed on fire hydrants.
222 Packing renewed on fire hydrants.
2550 Yards stone paving repaired.
1350 Yards flag paving repaired.
1664 Yards brick paving repaired.
60 Loads river sand.
630 Loads cinders.
1 barrel cement.
5 Extension 4 inch pipes, 2 feet long, for raising underground fire hydrants.

Screws Replaced in Main Gates.

2 3 inch iron screws, Thompson & West.
5 4 inch iron screws, Thompson & West.
5 6 inch iron screws, Thompson & West.
8 8 inch iron screws, Thompson & West.
2 10 inch iron screws, Thompson & West.
4 8 inch iron screws, Ludlow.
1 6 inch iron screw, Chapman.
1 6 inch brass screw, Chapman.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

114 ⅝ inch bolts and nuts for all valves.
46 Packing box bolts and nuts for all valves.
29 Packing renewed for all valves.
120 Joints caulked all valves.
2 Cast-iron frames and covers for main stop cocks.
2 New cypress cases for main stop cocks.
6 New cypress frames for main stop cocks.
232 lbs. pig lead.
25 lbs. hemp packing yarn.
1450 lbs. coal.
18 Feet 6 inch pipe to protect fire hydrants.

MATERIALS USED IN EXTENSIONS.

1 4 x 4 inch three way branches.
1 6 x 3 inch three way branches.
4 6 x 4 inch three way branches.
4 8 x 3 inch three way branches.
5 8 x 4 inch three way branches.
1 8 x 8 inch three way branches.
2 3 x 3 inch four way branches.
1 4 x 4 inch four way branch.
1 8 x 4 inch four way branch.
1 8 x 6 inch four way branch.
1 8 x 8 inch four way branch.
3 4 x 3 inch reducing pipes.
2 3 inch sleeves.
1 4 inch sleeve.
6 6 inch sleeves.
8 8 inch sleeves.
1 8 inch saddle.
1 3 inch quarter bend.
5 4 inch quarter bends.

6 4 inch eighth bends.
1 8 inch eighth bend.
1 3 inch valve.
3 4 inch valves.
2 6 inch valves.
4 8 inch valves.
3703 feet 3 inch pipe.
1235 feet 4 inch pipe.
2973 feet 6 inch pipe.
938 feet 8 inch pipe.
4 lengths 10 inch pipe.
5 3 inch cypress plugs.
4 4 inch cypress plugs.
1 8 inch cypress plug.
14 Morgan frames and covers.
1 Regulation frame and cover.
1 Cast-iron frame and cover for main valve.
1 Cypress case for main valve.
10 New Holly fire hydrants.
4870 lbs pig lead.
380 lbs. hemp packing yarn.
6551 lbs. coal.
1820 Feet 4 x 3 inch scantling.
258 Feet 12 x 1 inch boards.
270 Feet 12 x 3 inch planks.
11 Yards Rosetta gravel paving.
20 Yards asphalt paving.
779 Yards stone paving.
60 Barrels lime.
30 Loads cinders.

15

PLACING NEW STOP COCKS ON FIRE WELL PIPE ON NEUTRAL GROUND ON CANAL AND TCHOUPITOULAS STREETS.

3 Feet 12 inch pipe.
1 12 inch sleeve.
1 12 inch valve.
60 lbs. pig lead.
2 lbs. hemp packing yarn.
50 lbs. coal.
6 Yards flagging.

PRIVATE WORK DONE AND MATERIAL USED.

1 3 x 3 inch three way branch.
1 6 x 3 inch three way branch.
1 6 x 6 inch three way branch.
1 8 x 4 inch three way branch.
1 8 x 6 inch three way branch
1 6 x 6 inch four way branch.
2 4 inch eighth bends.
3 6 inch eighth bends.
1 3 inch quarter bend.
1 3 inch sleeve.
5 6 inch sleeves.
1 8 inch sleeve.
1 3 inch valve.
2 4 inch valves.
5 6 inch valves.
24 Feet 3 inch pipe.
67 Feet 4 inch pipe.
139 Feet 6 inch pipe.
1 10 inch boiler iron band.
6 ⅝ inch bolts and nuts.
6 Morgan frames and covers.
570 lbs. pig lead.
30 lbs. packing yarn.

621 lbs. coal.
34 Yards paving.
6 Yards flagging.

PRIVATE WORK DONE FOR PLUMBERS.

22 ½ inch ferrules used.
66 ⅝ inch ferrules used.
55 ¾ inch ferrules used.
105 Holes drilled and tapped
35 Ditches dug.
122 Yards pavement repaired.
21 Broken service pipes repaired by plumbers and ditches dug by company.
24 Yards paving.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

77 Lengths 3-inch pipe.
118 Lengths 4-inch pipe.
42 Lengths 6-inch pipe.
16 Lengths 8 inch pipe.
17 Lengths 10 inch pipe.
14 Lengths 12 inch pipe.
8 Lengths 12 inch pipe 10 ft. long.
8 Lengths 16 inch pipe.
6 Lengths 18 inch pipe.
3 Lengths 20 inch pipe.
2 Lengths 24 inch pipe.
22 Lengths 30 inch pipe.
6 Lengths 36 inch pipe.
1 Length 48 inch pipe.
5 3 inch parallel cypress plugs.
6 4 inch parallel cypress plugs.
10 6 inch parallel cypress plugs.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

3 6 inch taper cypress plugs.
12 8 inch parallel cypress plugs.
10 10 inch parallel cypress plugs.
10 10 inch taper cypress plugs.
11 12 inch taper cypress plugs.
7 3 inch Chapman valves.
5 4 inch Chapman valves.
2 6 inch Chapman valves.
6 8 inch Chapman valves.
2 10 inch Chapman valves.
1 10 inch R. D. Wood valve.
1 12 inch R. D. Wood valve.
1 20 inch McGuire valve.
8 8 inch old style valves.
12 3 x 18 inch sleeves.
1 3 x 9 inch sleeve.
6 4 x 18 inch sleeves.
1 4 x 8 inch sleeve.
3 6 x 8 inch sleeve.
9 8 x 18 inch sleeves.
6 10 x 18 inch sleeves.
3 10 x 14 inch sleeves.
3 10 x 10 inch sleeves.
7 12 x 18 inch sleeves.
5 12 x 9 inch sleeves.
1 16 x 12 inch sleeve.
2 16 x 15 inch sleeves.
1 16 x 30 inch sleeve.
2 18 x 18 inch sleeves.
1 30 x 24 inch sleeve.
2 36 x 15 inch sleeves.
1 36 x 28 inch sleeves.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—*Continued.*

10 4 to 3 inch reducers.
7 6 to 4 inch reducers.
7 8 to 3 inch reducers.
3 8 to 4 inch reducers.
12 8 to 6 inch reducers.
1 12 to 6 inch reducers.
2 12 to 8 inch reducers.
1 20 to 12 inch reducers.
1 3 inch goose neck.
5 4 inch goose necks.
3 8 inch iron plugs.
1 18 inch iron plug.
1 30 inch iron plug.
13 Morgan covers, complete.
3 Morgan covers, middle sections.
4 Morgan covers, bottom sections.
1 Cover of square frame.
23 Covers and wood case plugs, not in repair.
118 Bands for wood case plugs.
12 Tops of Holly plugs.
7 Holly plugs.
16 Wood case plugs.
64 Staves for wood cases.
4 Square frames.
16 Raising pipes.
13 3 inch eighth bends.
18 4 inch eighth bends.
7 6 inch eighth bends.
11 8 inch eighth bends.
1 12 inch eighth bend.
2 30 inch eighth bends.
7 3 inch quarter bends.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

19 4 inch quarter bends.
10 6 inch quarter bends.
5 8 inch quarter bends.
12 Three way branches 3 x 3 x 3, 2 bells.
7 Three way branches 3 x 3 x 3, 3 bells.
6 Three way branches 4 x 4 x 3, 3 bells.
1 Three way branch 4 x 4 x 3, 2 bells.
7 Three way branches 6 x 6 x 3, 2 bells.
9 Three way branches 6 x 6 x 4, 3 bells.
8 Three way branches 6 x 6 x 6, 2 bells.
2 Three way branches 8 x 8 x 3, 3 bells.
8 Three way branches 8 x 8 x 3, 2 bells.
5 Three way branches 8 x 8 x 4, 2 bells.
1 Three way branch 8 x 8 x 4 3, bells.
3 Three way branches 8 x 8 x'6, 3 bells.
3 Three way branches 8 x 8 x 8, 2 bells.
3 Three way branches 10 x 10 x 3, 2 bells.
3 Three way branches 10 x 10 x 4, 2 bells.
2 Three way branches 10 x 10 x 6, 2 bells.
3 Three way branches 10 x 10 x 8, 2 bells.
1 Three way branch 10 x 10 x 10, 3 bells.
6 Three way branches 12 x 12 x 6, 2 bells.
2 Three way branches 12 x 12 x 8, 3 bells.
1 Three way branch 16 x 16 x 8, 3 bells.
5 Three way branches 30 x 30 x 12, 3 bells.
2 Three way branches 36 x 36 x 8, 2 bells.
10 Four way branches 3 x 3 x 3 x 3, 3 bells.
4 Four way branches 4 x 4 x 4 x 4, 3 bells.
10 Four way branches 4 x 4 x 4 x 4, 4 bells.
8 Four way branches 6 x 6 x 4 x 4, 3 bells.
15 Four way branches 6 x 6 x 6 x 6, 4 bells.
10 Four way branches 8 x 8 x 3 x 3, 3 bells.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

13 Four way branches 8 x 8 x 4 x 4, 3 bells.
7 Four way branches 8 x 8 x 6 x 6, 4 bells.
2 Four way branches 8 x 8 x 8 x 8, 4 bells.
9 Four way branches 8 x 8 x 8 x 8, 3 bells.
7 Four way branches 10 x 10 x 3 x 3, 3 bells.
3 Four way branches 10 x 10 x 4 x 4, 3 bells.
7 Four way branches 10 x 10 x 6 x 6, 3 bells.
3 Four way branches 10 x 10 x 8 x 8, 3 bells.
4 Four way branches 12 x 12 x 6 x 6, 3 bells.
2 Four way branches 12 x 12 x 8 x 8, 3 bells.
5 Four way branches 16 x 16 x 6 x 6, 3 bells.
5 Four way branches 16 x 16 x 8 x 8, 3 bells.
1 Four way branch 16 x 16 x 12 x 12, 3 bells.
1 Four way branch 20 x 20 x 8 x 8, 3 bells.
1 Four way branch 20 x 20 x 10 x 10, 3 bells.
1 Four way branch 30 x 30 x 8 x 8, 3 bells.

41793

RECEIPTS AND DISBURSEMENTS

FOR YEAR ENDING MARCH 31ST, 1890.

CASH RECEIPTS FOR YEAR ENDING MARCH 31ST, 1890.

Cash on hand March 31, 1889.... .....$	50,615	61
Cash received from water rates from April 1, 1889, to March 31, 1890, inclusive..	218,245	13
Cash received for materials sold and labor.	3,192	08
Cash received for plumbers' licenses..	25	00
Cash received for ashes sold	7	00
	$272,084	82

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31ST, 1890.

Pumping Service Department :		
Wages, supplies and repairs		$13,428 78
Hydrant Service Department :		
Salaries, wages, etc		9,029 72
Office Expense Department :		
Salaries, wages, etc		8,723 71
Street Service Department :		
Wages, repairs, etc		6,901 15
Improvements and Extensions:		
Wages, labor, materials, etc		7,119 72
Materials and specials bought		816 18
Matured coupons paid		23,505 00
Coal purchased		11,047 04
Coal consumed during year	$9,050 32	
State taxes 1889, paid		5,991 21
City taxes, 1889, paid		20,170 41
Interest paid on city taxes 1889		733 56
State licenses for 1889 and 1890		536 00
Dividends paid		80,470 00
Water rates refunded		489 47
Rent office and shop		1,500 00
Attorneys' fees and court costs		5,172 32
Stationery and printing		596 30
Telephones		230 00
Horse and buggy and keep		533 20
Miscellaneous and petty expenses		435 80
Cash in bank and petty cash		74,655 25
		$272,084 82

GENERAL BALANCE, MARCH 31, 1890.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	74,655 25	
Materials and fixtures on hand	6,202 60	
Coal on hand	3,398 56	
Invested in improvements and extensions	420,782 97	
Cash deposited with New Orleans Gas Light Co	10 00	
Suspense account	4,602 53	
Due by U. S. Customhouse	1,200 02	
Due by U. S. Mint	1,125 00	
Due by Illinois Central Railroad Company	675 00	
Due by Mississippi Valley Railroad Company	1,250 00	
Due by Weckerling Brewing Co.	624 85	
Due by City of New Orleans for March, 1890	5,765 00	
		$2,520,291 78
Bills for water rates in course of collection, not included in above assets	$	7,580 49

GENERAL BALANCE, MARCH 31, 1890.

LIABILITIES—

Capital stock	$2,000,000 00
Bonds issued	395,000 00
Dividends unpaid	1,165 00
Coupons due and unpaid	345 00
Profit and loss	123,781 78
	$2,520,291 78

R. L. Macmurdo, secretary and treasurer, duly sworn, says that the above is a true and correct transcript from the books of the company.

ATTEST:

R. L. MACMURDO,
Secretary and Treasurer.

R. R. CRAIG,
President.

Sworn to and subscribed before me, notary, this 5th day of April, A. D., 1890.

CHAS. T. SONIAT,
Notary Public.

SEAL.

THIRTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks

COMPANY.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
H. ABRAHAM,	"
G. W. NOTT,	"
HON. JOS. A. SHAKSPEARE, MAYOR,	EX-OFFICIO.
HON. J. N. HARDY CITY TREASURER,	"
HON. THOS. A. AGNEW, COMMISSIONER PUBLIC BUILDINGS,	"

APRIL 1st, 1891.

NEW ORLEANS:
A. W. HYATT, STATIONER AND PRINTER, 73 CAMP ST.
1891.

PRESIDENT'S REPORT.

NEW ORLEANS, April 1st, 1891.

To the Board of Directors New Orleans Waterworks Company :

Gentlemen—In accordance with our charter requirements I herewith submit the report of the Superintendent, giving detailed history of the work done by the company during past twelve months, and that of the Secretary and Treasurer, showing the financial record for the same period. We have faithfully performed our duties under the contract with the city, and have been paid monthly. The affairs of the company continue in a prosperous condition, and I recommend that the usual semi annual dividend of two per cent. be made. Respectfully,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1st, 1891.

To the President and Directors New Orleans Waterworks Company:

Gentlemen—The records for the past year do not show any work of magnitude or special importance in any of the departments of the company.

In street service repairs a larger amount of work has been done than in the previous year. Not that there were an unusual number of breaks or leaks in the mains, but more than minor details were looked after, such as the repair of hydrant cases, repaving about stop cocks, and work of such character as is usually deferred in the presence of more important matters, but which is necessary to general good order. A pretty general "cleaning up" has been done in this connection.

The 30 inch main under the railroad tracks, on Delta street, which had needed frequent attention and caused much expense from leaking joints in past years, has gradually been provided with a more solid bed and is in an altogether better condition.

The machinery has needed and received current repairs, but none of any magnitude.

Under demand of the city authorities the sidewalks around the reservoir square have been raised and repaved.

Last fall, a serious shoaling was found about the cribs and intake pipes. The situation was temporarily relieved by dredging, and it may be that a continuance of this method will obviate the necessity for again extending the pipes.

No extensions of mains under our charter terms have been asked for during the year, and none have been made.

In November last my attention was drawn to a grassy growth in the basins of the reservoir. During the preceding quarter of a century nothing similar had occurred. The active use of the reservoir had been abandoned for several months, and the water contained therein had become quite clear. The growth of which I speak was rooted in a deposit of silt only six inches in depth, and stood some five feet high, or up to the surface of the water. Its formation or growth was in separate circles, each about six feet in diameter, and so covered the whole floor of the basins. The water was run off and the deposit and vegetable growth removed. The latter fell with the water, and examination showed the greatness of its capacity for contamination of a large supply. It had even before being dried, a marine, not to say a fishy order, and the water about it strongly partook of this peculiarity.

The incident is recorded as an illustration of the effect of impounding and stagnating even the water of the Mississippi river. It also illustrates what might have been expected from such an impounding of the waters of the Tangipahoa river, had that wild scheme ever been adopted for the supply of New Orleans. The matter is now the subject of scientific investigation by an expert committee of the American Water Works Association.

The usual engine record, detailed statement of work done, and inventories are herewith appended.

Respectfully,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, APRIL 1, 1890, TO MARCH 31, 1891.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate	Gallons Oil	Lbs Tallow	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total									
1890														
April	135,886,208	59	1,474			23,356,264	512							
	111,578,320	50	1,083	33	2,590	23,872,837	572	8.34	7.	2 ft. 10 in	78	80	153	247,464,528
May	144,721,408	60	1,595			25,224,170	504							
	117,790,120	50	1,143	34	2,772	23,867,094	572	8.35	7.	4 ft. 5 in	86	133	164	262,511,528
June	154,257,396	62	1,590			27,860,081	538							
	120,894,860	50	1,096	30	2,716	25,551,523	612	8.18	7.	6 ft. 1 in	83	76	158	275,152,256
July	171,389,444	66	1,869			28,035,544	509							
	130,675,040	50	1,166	36	3,071	25,960,691	622	8.22	6.	10 ft. 6 in	86	85	159	302,064,484
August	170,055,312	70	1,898			29,054,226	498							
	133,138,948	50	1,312	30	3,240	23,505,055	563	8.25	6.	14 ft. 7 in	94	77	163	303,194,260
Sept	177,444,012	69	1,984			28,586,767	496							
	125,681,740	50	1,302	31	3,317	22,349,375	536	8.29	6.	14 ft. 4 in	79	61	159	303,125,752
Oct	169,866,708	69	1,933			28,097,555	488							
	126,599,260	50	1,296	32	3,261	22,628,329	542	8.20	6.	13 ft. 3 in	82	63	165	296,465,968
Nov	152,588,386	69	1,662			29,356,792	509							
	124,715,680	50	1,292	28	2,982	22,368,360	536	8.32	6.	13 ft. 4 in	80	65	158	277,304,066
Dec	156,987,378	68	1,754			28,192,109	497							
	124,406,440	50	1,277	35	3,066	22,576,059	541	8 27	6.	12 ft. 7 in	81	62	162	281,393,818
Jan. 1891	141,469,924	65	1,537			27,706,230	511							
	123,015,804	50	1,249	32	2,818	22,819,213	547	8.29	6.	9 ft. 8 in	76	62	151	264,485,728
Feb	114,198,000	61	1,087			29,702,449	583							
	108,015,880	50	1,025	00	2,112	23,623,083	585	8.31	6.	5 ft. 7 in	57	56	112	222,213,880
March	119,302,000	61	1,139			27,193,170	582							
	121,822,780	50	1,136	00	2,275	24,841,124	595	8.30	5.	2 ft. 10 in	62	62	124	241,124,780
Totals & Averages.	3,276,501,048		33,899	321	34,220		519	8.29	6.		944	882	1828	3,276,501,048

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	755	
Holly	155	
Underground	122	
Mathew	61	
Iron case	36	
Boston	5	
		1134
Fire wells		51
Blow offs		23
		1208
Main stop cocks or gates		577

DISTRIBUTION—CAST IRON PIPES.

3 inch	36.303 ft.	10 inch	23.600 ft.	20 inch	2.300 ft.
4 inch	71.666 ft.	12 inch	8.375 ft.	24 inch	2.400 ft.
6 inch	99.566 ft.	16 inch	21.175 ft.	30 inch	16.100 ft.
8 inch	103.150 ft.	18 inch	16.400 ft.	36 inch	3.600 ft.

Or say, 76.63 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST SEVEN YEARS.

MEAN TEMPERATURE.								
	1884	1885	1886	1887	1888	1889	1890	1891
Jan	47	52	39	51	56	51	65	53
Feb	61	53	42	65	50	52	64	62
Mar'h	65	58	58	62	60	58	62	61
April	68	70	65	68	70	70	70	.....
May	76	74	72	75	73	74	74	.....
June	79	82	79	78	77	78	80	.....
July	85	83	80	80	81	83	81	.....
Aug	82	75	81	81	75	81	80	.....
Sept	81	72	78	77	75	79	77	.....
Oct	74	56	69	69	68	70	69	.....
Nov	60	51	59	61	62	59	64	.....
Dec	59	46	51	53	51	64	56	.....

RAIN FALL.								
	1884	1885	1886	1887	1888	1889	1890	1891
Jan	4.35	9.70	7.53	4.26	3.29	6.51	.66	3.75
Feb	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42
Mar'h	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67
April	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.....
May	4.33	5.77	3.07	3.90	9.75	1.17	5.32	.....
June	8.60	3.30	9.30	11.33	9.00	7.62	7.71	.....
July	4.12	6.15	4.35	7.85	2.04	9.13	6.50	.....
Aug	.87	4.25	2.40	7.42	22.74	5.59	3.62	.....
Sept	3.12	13.55	4.09	6.51	4.15	6.40	2.85	.....
Oct	5.60	.56	.22	4.71	7.36	.26	5.24	.....
Nov	3.13	3.47	5.33	.52	1.50	2.18	0.42	.....
Dec	8.01	4.38	2.57	7.56	3.08	.67	2.58	.....

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIRS.

2 Leaks on 48 inch pipe.
2 Leaks on 36 inch pipe.
51 Leaks on 30 inch pipe.
544 Leaks on main pipes, from 3 inch to 20 inch.
8 Broken main pipes replaced with new lengths, to wit:
2 Lengths 4 inch pipes.
5 Lengths 6 inch pipes.
1 Length 8 inch pipe.
2 4 inch sleeves.
5 6 inch sleeves.
1 8 inch sleeve.
3 Broken service pipes repaired by the Company.
9 Stop cocks dug for and found.
26 Service pipes cut and plugged.
2 4 inch service pipes broken, cut and plugged.
3 4 inch plugs blown from end of pipe.
14 Ferrules drawn from main pipes.
342 Leaking stop cocks repaired on main pipes.
175 $\frac{5}{8}$ inch bolts and nuts for stop cocks.
90 Packing Box bolts and nuts.
1 Cast-iron frame and cover.
1 Bingham & Morgan frame and cover.
2 Cypress cases.
10 Cypress frames.
180 Joints caulked on new screws.
49 Stop cocks furnished with new screws.
49 Stop cocks packing renewed.
200 Stop cock joints caulked.

Blow Offs.

21 Blow off stop cocks leaking and repaired.
42 Joints caulked in same.

Work Done and Materials Used in Street Service—Continued.

21 Packings renewed in same.
42 Bolts and nuts in same.
4 Cast iron glands for packing boxes, from 3 to 18 inches.
4 Inch bolts and nuts.
10 ⅞ inch bolts and nuts.
684 Packing box bolts and nuts.
41 Cypress frames for stop cocks.
588 Joints caulked on main pipes and main gates.

Fire Wells.

48 Leaking fire well stop cocks repaired.
96 Packing box bolts and nuts.
96 Joints caulked.
48 Packings renewed.
2 Keys shortened.
1 New key made.
5 New set screws for fastening keys.
1 Large cast iron cover for fire well.
1 Cypress cover, with hinges for same.
20 ¾ inch bolts and nuts to fasten hinges.
1 Pair strap hinges.
1 Raising fire well, 8 inches.
84 Holly fire hydrants leaking and repaired.
52 Wrought iron screws covered with brass for same.
52 Cast iron valves for same.
52 Cast iron valve seats for same.
2 Cast iron ferrules to cover screws for same.
2 Cast iron glands for packing boxes.
6 Cast iron top covers.
2 4 inch ¼ bend to raise Holly fire hydrant.
123 ½ inch bolts for top covers.
6 ⅝ inch bolts and nuts.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

52 Gum valves.
52 Joints caulked.
52 Packings renewed.
6 Mathew fire hydrants leaking and repaired.
4 Hollow brass nuts for valve rods.
4 Cast iron top nuts.
13 ¾ inch bolts and nuts.
6 Gum valves.
6 Joints caulked.
2 Mathew fire hydrants broken and replaced.
5 Boston fire hydrants leaking and repaired.
5 Gum valves.
10 ⅝ inch bolts.
5 Joints caulked.
5 Packings renewed.
30 New cypress cases for fire hydrants.
106 Broken cases repaired with new staves.
22 New hooks for top staves.
5 Cast iron covers with hinges for wooden cased fire hydrants.
10 " " " for Philadelphia fire hydrants.
4 Cast iron frames and covers for U. G. fire hydrants where broken.
4 Boiler iron covers to replace broken U. G. fire hydrant covers.
1 Cast iron main stop cock frame and cover for U. G. fire hydrant.
31 Wrought iron bands for wooden cased fire hydrant.
14 Feet 6 inch pipes for posts, to protect wooden cased fire hydrants.
8 Feet 8 inch pipes for posts, to protect wooden cased fire hydrants.
20 Feet 8 x 8 inches scantling for posts, to protect wooden cased fire hydrants.

Work Done and Materials Used in Street Service—Continued.

4 4 inches cypress plugs for ends of main pipes.
664 Pounds pig lead used in all street service repairs.
255 Pounds hemp packing yarn used in all street service repairs.
5 Barrels of coal used in all street service repairs.
4020 Yards stone paving.
965 Yards stone flagging paving.
1225 Yards brick paving.
10 Yards Schillinger pavement.
700 Loads cinders.
102 Loads river sand.
1 Load Rosetta gravel.

UNDER GROUND FIRE HYDRANTS REMOVED WHERE BANQUETTES WERE RAISED.

5 Under ground fire hydrants replaced with W. C. fire hydrants.
1 Under ground fire hydrant replaced with Philadelphia fire hydrant.
1 Philadelphia fire hydrant replaced with U. G. fire hydrant.
2 Philadelphia fire hydrants replaced with W. C. fire hydrants.
7 New wooden cased fire hydrants used.
1 Philadelphia fire hydrant used.
1 Under ground fire hydrant, used.
2 Holly fire hydrants used to replace broken Mathew fire hydrants.
5 Broken wooden cased fire hydrants replaced with new ones.
2 Broken Holly fire hydrants replaced with new ones.
2 Broken under ground fire hydrants replaced with new ones.
88 Wooden cased fire hydrants furnished with new rods and valves.

UNDER GROUND FIRE HYDRANTS REMOVED WHERE BANQUETS WERE RAISED—Continued.

7 Philadelphia fire hydrants furnished with new rods and valves.
35 Under ground fire hydrants furnished with new rods and valves.
52 Holly fire hydrants furnished with new valves.
6 Mathew fire hydrants furnished with new valves.
5 Boston fire hydrants furnished with new valves.
354 Wooden cased fire hydrants leaking and repaired.
20 Philadelphia fire hydrants leaking and repaired.
47 Under ground fire hydrants leaking and repaired.
51 Holly fire hydrants leaking and repaired.
6 Mathew fire hydrants leaking and repaired.
5 Boston fire hydrants leaking and repaired.
674 Joints caulked on leaking fire hydrants.
674 Packings renewed on leaking fire hydrants.
88 Wrought iron rods for wooden cased fire hydrants.
7 Wrought iron rods for Philadelphia fire hydrants.
33 Wrought iron rods for under ground fire hydrants.
25 copper rods for under ground fire hydrants.
88 Wrought iron screws, with clamps.
35 Wrought iron screws, without clamps.
275 Wrought iron stirrups and nuts.
130 Wrought iron buttons for fire hydrant rods.
160 Wrought iron slats for fire hydrant rods.
260 Wrought iron keys for screw clamps.
260 Cast iron valve flanges for fire hydrants, small.
260 Cast iron valve flanges for fire hydrants, large.
35 Brass nut screws for under ground fire hydrants.
12 Brass nozzles for fire hydrants.
130 Gum valves for fire hydrants.
1-4 inch raising pipe for under ground fire hydrant.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS.

Whittier or Boston Stop Cock Screws.

12 6 inch iron screws.
12 8 inch iron screws.
12 10 inch iron screws.
12 12 inch iron screws.
12 20 inch iron screws.

Chapman Stop Cock Screws.

6 3 inch iron screws.
6 6 inch iron screws.
6 8 inch iron screws.
8 10 inch iron screws.

Eddy or R. D. Wood Stop Cock Screws.

4 6 inch iron screws.
12 8 inch iron screws.
2 10 inch iron screws.
3 12 inch iron screws.

Ludlow Stop Cock Screws.

2 6 inch brass screws.
48 inch brass screws.
12 6 inch iron screws.
11 8 inch iron screws.

Boston Stop Cock Screws.

9 6 inch brass screws.
12 8 inch brass screws.
2 6 inch iron screws.
1 8 inch iron screw.

Thompson & West Iron Stop Cock Screws.

2 3 inch iron screws.
5 4 inch iron screws.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

11 6 inch iron screws.
4 8 inch iron screws.
9 10 inch iron screws.
20 12 inch iron screws.
21 16 inch iron screws.
15 18 inch iron screws.

CAST IRON UNFINISHED GLANDS FOR STUFFING BOXES.

47 Unfinished cast iron glands, from 3 inch to 12 inch.
38 Unfinished cast iron glands, from 16 inch to 18 inch.
35 Finished cast iron glands, from 4 inch to 8 inch.
49 ⅝ inch bolts and nuts.
30 Packing box bolts and nuts.
1 Cypress case for main stop cock.
6 Wooden frames for main stop cocks.
489 Pounds pig lead.
85 Pounds hemp packing yarn.

MILWAUKEE FERRULES ON HAND.

122 ½ inch ferrules.
77 ⅝ inch ferrules.
90 ¾ inch ferrules.

BOSTON FERRULES ON HAND.

8 ⅝ inch ferrules.
7 ¾ inch ferrules,
2 Wooden cased fiire hydrants not in repair.
1 Wooden cased fire hydrant in repair.
5 Philadelphia fire hydrants in repair.
4 Under ground fire hydrants in repair.
11 Cast iron covers with hinges, for wooden cased fire hydrants, good.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

2 Cast iron covers with hinges, for wooden cased fire hydrants, not in repair
7 Cast iron covers with hinges for Philadelphia fire hydrants, small, not in repair.
7 Cast iron covers with hinges, for Philadelphia fire hydrants, small, in repair.
4 Cast iron covers with hooks, for Philadelphia fire hydrants, large, not in repair.
7 Cast iron covers with hooks, for Philadelphia fire hydrants, large, in repair.
26 Hooks for wooden cased fire hydrants covers.
6 Wrought iron middle bands for fire hydrant cases.
25 Wrought iron rods for wooden cased fire hydrants.
51 Wrought iron rods for Philadelphia fire hydrants.
12 Wrought iron rods for under ground fire hydrants.
7 Copper rods for under ground fire hydrants.
91 Wrought iron screws without clamps.
7 Wrought iron screws with clamps.
26 Wrought iron stirrups and nuts, long.
44 Wrought iron stirrups and nuts, short.
12 Wrought iron buttons for fire hydrant rods.
170 Wrought iron slats for fire hydrant rods.
28 Wrought iron keys for screw clamps for fire hydrants.
2 New cypress cases for wooden cased fire hydrants.
35 Gum valves.
40 Cast iron valve flanges for fire hydrants, small.
8 Cast iron valve flanges for fire hydrants, large.
5 Brass nuts for under ground fire hydrant screws.
32 Brass nozzles for fire hydrants.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

FOR HOLLY FIRE HYDRANTS.

9 Wrought iron screws, covered with brass.
220 Cast iron ferrules to cover screws.
9 Cast iron valves for single nozzles.
9 Cast iron valve seats for single nozzles.
4 Cast iron valve seats for double nozzles.
4 Cast iron valves for double nozzles.
5 Cast iron glands for packing boxes.
8 Cast iron top covers.
6 Gum valves.
64 lbs. ¾ mixed gum packing.

FOR MATHEW FIRE HYDRANTS.

58 Brass hollow screws or nuts.
7 Cast iron top nuts.
58 Gum valves.

FOR BOSTON FIRE HYDRANTS.

10 ⅝ inch bolts.
2 Gum valves.

TOOLS AND MATERIALS IN THE WORKSHOP.

1 Bench vise.
2 Drill presses.
2 Bench hammers.
4 Caulking hammers.
15 Caulking irons.
4 Cutting chisels.
4 Chipping chisels.
8 Diamond points.
5 Gasquet irons.
3 Monkey wrenches.

4 Flat files.
2 Pairs stocks and dies.
1 Bench plane.
1 Rip saw.
2 Cross cut saws.
1 Alligator saw.
2 Lock saws.
1 Steel square.
2 Framing chisels.
1 Sledge hammer.
2 Ladles.
1 Pot and furnace.
1 3 inch patent Gasquet, with iron clamps.
1 4 inch patent Gasquet, with iron clamps.
1 6 inch patent Gasquet, with iron clamps.
1 8 inch patent Gasquet, with iron clamps.
3 Wood axes.
2 Grub axes.
4 Asphalt axes.
2 Carpenters' hatchets.
4 Danger lanterns.
3 Torch lanterns.
14 Pick axes.
3 Spades.
6 Shovels.
3 Paving rammers.
4 Crow bars.
2 Patent drilling machines, with drill and taps and gum packings.
2 Old drilling machines, with drills and reamers.
4 Wooden hand spikes.
16 Stop keys, for all sizes.
1 Grinding stone.

Private Work Done and Materials Furnished for Plumbers.

53 Lengths 3 inch pipe.
2 Lengths 4 inch pipe.
1 Length 6 inch pipe.
1 3 x 3 inch three way branch.
1 6 x 3 inch three way branch.
1 8 x 3 inch three way branch.
1 4 x 3 inch reducing pipe.
1 6 x 4 inch reducing pipe.
1 8 x 3 inch reducing pipe.
3 3 inch ¼ bends.
1 4 inch ¼ bend.
3 6 inch ¼ bends.
3 4 inch sleeves.
1 6 inch sleeve.
1 8 inch sleeve.
3 3 inch valves.
2 4 inch valves.
2 4 inch saddles.
2 Bingham & Morgan's frames and covers.
12 ⅝ inch bolts and nuts.
7 Pounds gum packing.
459 Pounds pig lead.
50 Pounds hemp packing yarn.
530 Pounds coal.
166 Yards paving.
60 Barrels cinders.
12 ½ inch ferrules.
37 ⅝ inch ferrules.
28 ¾ inch ferrules.
49 Holes drilled and taps made.
28 Ditches dug.
94¾ Yards paving.

Broken Service Pipes Repaired by Plumbers and Materials Used.

4½ inch ferrules.
1½ inch ferrues.
34 Ditches dug.
43 Yards paving.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

20 Lengths of 3 inch pipe, 12 feet long.
114 Lengths of 4 inch pipe, 12 feet long.
24 Lengths of 6 inch pipe, 12 feet long.
2 Lengths of 6 inch pipe 10 feet long.
11 Length of 8 inch pipe, 12 feet long.
17 Lengths of 10 inch pipe, 12 feet long.
14 Lenghts of 12 inch pipe, 12 feet long.
7 Lengths of 12 inch pipe, 10 feet long.
7 Lengths of 16 inch pipe, 12 feet long.
1 Length of 16 inch pipe, 10 feet long.
6 Lengths of 18 inch pipe, 12 feet long.
2 Lengths of 20 inch pipe, 12 feet long.
1 Length of 20 inch pipe, 10 feet long.
2 Lengths of 24 inch pipe, 12 feet long.
22 Lengths of 30 inch pipe, 12 feet long.
1 Length of 30 inch pipe, 11 feet long, no bell.
1 Length of 30 inch pipe, 8 feet long, no bell.
6 Lengths of 36 inch pipe, 12 feet long.
1 Length of 36 inch pipe, 9 feet long, no bell.
1 Length of 48 inch pipe, 12 feet long.

In Pieces of Pipe.

25 feet of 3 inch pipe.
31 feet of 4 inch pipe.
18 feet of 6 inch pipe.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

20 feet of 10 inch pipe.
16 feet of 18 inch pipe.
4 feet of 12 inch pipe.
4 feet of 16 inch pipe.
4 feet of 18 inch pipe.
9 Reducers, 4 to 3 inches, bell and spigot ends.
5 Reducers, 6 to 4 inches, bell and spigot ends.
6 Reducers, 8 to 3 inches, bell and spigot ends.
3 Reducers, 8 to 4 inches, bell and spigot ends.
4 Reducers, 8 to 6 inches, bell and spigot ends.
8 Reducers, 8 to 6 inches, spigot ends.
1 Reducer, 12 to 6 inches, bell and spigot ends.
2 Reducers, 12 to 8 inches, bell and spigot ends.
1 Reducer, 20 to 12 inches, bell and spigot ends.
10 3 inch sleeves, 18 inches long.
3 4 inch sleeves, 18 inches long.
46 6 inch sleeves, 18 inches long.
1 8 inch sleeve, 12 inches long.
25 8 inch sleeves, 18 inches long.
1 10 inch sleeve, 8 inches long.
3 10 inch sleeves, 10 inches long.
2 10 inch sleeves, 13 inches long.
1 10 inch sleeve, 14 inches long.
6 10 inch sleeves, 18 inches long.
5 12 inch sleeves, 9 inches long.
5 12 inch sleeves, 18 inches long.
1 16 inch sleeve, 12 inches long.
2 16 inch sleeves, 15 inches long.
1 16 inch sleeve, 30 inches long.
2 18 inch sleeves, 15 inches long.
1 30 inch sleeve, 24 inches long.
2 36 inch sleeves, 15 inches long.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

1 28 inch sleeve, 28 inches long (in 2 halves).
5 Three way branches 3 x 3 x 3, 3 bells.
11 Three way branches 3 x 3 x 3, 2 bells.
6 Three way branches 4 x 4 x 3, 3 bells.
15 Three way branches 4 x 4 x 4, 2 bells.
6 Three way branches 6 x 6 x 3, 2 bells.
9 Three way branches 6 x 6 x 4, 3 bells.
7 Three way branches 6 x 6 x 6, 2 bells.
7 Three way branches 8 x 8 x 3, 2 bells.
2 Three way branches 8 x 8 x 3, 3 bells.
5 Three way branches 8 x 8 x 4, 2 bells.
1 Three way branch 8 x 8 x 4, 3 bells.
2 Three way branches 8 x 8 x 6, 3 bells.
3 Three way branches 8 x 8 x 8, 2 bells.
3 Three way branches 10 x 10 x 3, 2 bells.
3 Three way branches 10 x 10 x 4, 2 bells.
2 Three way branches 10 x 10 x 6, 2 bells.
3 Three way branches 10 x 10 x 8, 2 bells.
1 Three way branch 10 x 10 x 10, 3 bells.
6 Three way branches 6 x 12 x 12, 2 bells.
2 Three way branches 12 x 12 x 8, 3 bells.
1 Three way branch 16 x 16 x 8, 3 bells.
5 Three way branches 30 x 30 x 12, 3 bells.
2 Three way branches 36 x 36 x 8, 1 bell.
10 Four way branches 3 x 3 x 3 x 3, 3 bells.
4 Four way branches 4 x 4 x 4 x 4, 3 bells.
10 Four way branches 4 x 4 x 4 x 4, 4 bells.
8 Four way branches 6 x 6 x 4 x 4, 3 bells.
15 Four way branches 6 x 6 x 6 x 6, 4 bells.
10 Four way branches 8 x 8 x 3 x 3, 3 bells.
13 Four way branches 8 x 8 x 4 x 4, 3 bells.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

7 Four way branches 8 x 8 x 6 x 6, 4 bells.
9 Four way branches 8 x 8 x 8 x 8, 3 bells.
2 Four way branches 8 x 8 x 8 x 8, 4 bells.
8 Four way branches 10 x 10 x 3 x 3, 3 bells.
3 Four way branches 10 x 10 x 4 x 4, 3 bells.
4 Four way branches 12 x 12 x 6 x 6, 3 bells.
2 Four way branches 12 x 12 x 8 x 8, 3 bells.
5 Four way branches 16 x 16 x 6 x 6, 3 bells.
5 Four way branches 16 x 16 x 8 x 8, 3 bells.
1 Four way branch 16 x 16 x 12 x 12, 3 bells.
1 Four way branch 20 x 20 x 8 x 8, 3 bells.
1 Four way branch 20 x 20 x 10 x 10, 3 bells.
1 Four way branch 30 x 30 x 8 x 8, 3 bells.
4 3 Inch quarter bends, long.
14 4 inch quarter bends, long.
1 4 inch quarter bend, short.
2 6 inch quarter bends, long.
1 6 inch quarter bends, short.
2 8 inch quarter bends.
12 3 inch eighth bends.
16 4 inch eighth bends.
4 6 inch eighth bends.
11 8 inch eighth bends.
1 12 inch eighth bend.
2 30 inch eighth bends.
5 3 inch parallel cypress plugs.
5 4 inch parallel cypress plugs.
10 6 inch parallel cypress plugs.
12 8 inch parallel cypress plugs.
11 10 inch parallel cypress plugs.
1 12 inch parallel cypress plug.
2 6 inch taper cypress plugs.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—

4 10 inch taper cypress plugs.
10 12 inch taper cypress plugs.
7 8 inch cast iron plugs.
1 30 inch cast iron plug.
11 Morgans cases, complete, for main gates.
3 Middle sections of Morgan cases.
4 Bottom sections of Morgan cases.
14 4 inch extension pieces for raising fire hydrants.
3 Holly fire hydrants.
2 Wood case fire hydrants.
214 Staves for wood cased hydrants.
4 3 inch Chapman valves.
9 4 inch Chapman valves.
8 6 inch Chapman valves.
4 8 inch Chapman valves.
2 10 inch Chapman valves.
3 8 inch Boston valves.
2 8 inch old style valves, single face.
1 10 inch R. D. Wood valve.
1 20 inch Maguire valve.

CASH RECEIPTS FOR YEAR ENDING MARCH 31ST, 1891.

Cash on hand March 31, 1890	$ 74,655	25
Cash received from water rates April 1, 1890, to March 31, 1891, inclusive....	200,693	81
Cash received for materials sold and labor	1,835	82
Cash received for plumber's license.....	5	00
Cash received for ashes sold.....	48	75
	$277,238	63

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31st, 1891.

Pumping Service :		
Wages, supplies, repairs, etc.	$14,147	46
Improvements and extensions :		
Wages, labor, materials, etc	1,870	49
Hydrant service :		
Wages, salaries, etc	9,006	68
Office expenses :		
Wages, salaries, etc	8,888	24
Street service repairs :		
Wages, repairs, etc	7,775	01
Materials and specials bought	1,366	45
Matured coupons paid	23,535	00
Coal purchased	9,109	01
State taxes, 1890	10,238	50
City taxes, 1890	29,545	39
State license, 1891	250	00
Dividends paid	80,086	00
Water rates refunded	298	45
Attorney's fees and court costs	1,427	20
Stationery and printing	1,926	60
Telephones	230	00
Rent office and shop	1,500	00
Keep horse and buggy	373	15
Miscellaneous and petty expenses	528	25
Cash in bank and petty cash	75,136	75
(Coal consumed, $9,838 23.)		
	$277,238	63

GENERAL BALANCE MARCH 31, 1891.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	75,136 75	
Materials and fixtures on hand	7,473 90	
Coal on hand	2,669 34	
Improvements and extensions, amount invested in	420,715 25	
Cash deposited with New Orleans Gas Light Co	10 00	
Suspense account	4,602 53	
Due by U. S. Customhouse	1,200 02	
Due by U. S. Mint	1,125 00	
Due by Illinois Central Railroad Company	825 00	
Due by Mississippi Valley Railroad Company	1,250 00	
Due by City of New Orleans	5,765 00	
Paving account around reservoirs	1,200 00	
		$2,521,972 79

LIABILITIES —

Capital stock	$2,000,000 00	
Bonds issued	395,000 00	
Dividends unpaid	1,079 00	
Coupons due and unpaid	510 00	
Profit and loss	125,383 79	
		$2,521,972 79
Bills for water rates in course of collection and not included in above assets		$ 8,388 52

R. L. Macmurdo, Secretary and Treasurer, duly sworn, says that the above is a true and correct transcript from the books of the Company.

ATTEST:

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, notary, this 18th day of April, A. D., 1891.

M. C. SONIAT,
Notary Public.

SEAL.

4181

FOURTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks

COMPANY.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
H. ABRAHAM,	"
G. W. NOTT,	"
HON. JOS. A. SHAKSPEARE, MAYOR,	EX-OFFICIO.
HON. J. N. HARDY, CITY TREASURER,	"
HON. THOS. A. AGNEW, COMMISSIONER PUBLIC BUILDINGS,	"

APRIL 1st, 1892.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD.
1892.

PRESIDENT'S REPORT.

NEW ORLEANS, April 6th, 1892.

To the Board of Directors New Orleans Waterworks Company:

Gentlemen—During the past twelve months the suit between our partner, the city of New Orleans, and this company, involving the validity of our contract with the city, has been decided in favor of the company by the Supreme Court of the United States, thus ending a period of about three years of vexatious litigation. Notwithstanding the turmoil incident to this family quarrel of so long duration, the company has prospered, and we have more hydrants in use now than at the commencement of this suit, and since then we have made more than four miles of pipe extensions, and have done so from the revenues and profits of the company, without the sale of a bond, and after paying the interest on our bonded debt and the regular semi-annual dividends.

As provided for in the resolutions adopted by the board at its meeting, held January 6, 1892, I have contracted for the Filter plant, first payment to be one-sixth of the whole amount after the erection of the plant and successful operation thirty days. In connection therewith I have also contracted for two pumping engines of ten million gallons capacity each, all within the amount of, and to be paid from, the contemplated sale of the two hundred and fifty thousand ($250,000) dollars, second mortgage bonds. These bonds, not being needed at this time, have not yet been prepared, and will, of course, not be put upon the market until such time as payments on these contracts become due, and then only in such amounts as required to meet said payments.

On the 31st day of March, 1892, at the office of J. D. Taylor, notary public in this city, and in the presence of his Honor the

Mayor (Shakspeare), I had the unissued bonds, amounting to one hundred and five thousand ($105,000) dollars, of this company, canceled, and there has been prepared, by said notary, a "proces verbal" as evidence of said cancellation.

The work on construction of the Filter plant and pumping engines is now under way, and both to be in operation in the near future (probably within six months, if no unforeseen difficulties present themselves). With these additions the capacity of our plant will be increased, and the character of water improved. With filtered water we can meter a considerable portion of our consumers, and thus partially reduce the waste. With the new and improved machinery, we anticipate a material saving in coal. Litigation ended, there will naturally be a reduction in law expenses.

Should the attempt at filtered water prove successful, I do not feel that I am over-sanguine in expecting such an increase in revenues that we can, on a much larger scale, continue to make pipe extensions without increasing our bonded debt; can regularly pay our interest coupons, perform our part of the contracts with the city and the citizens, and also pay regular semi-annual dividends to our stockholders. However, should we be disappointed in our efforts to improve the water at this time, I know from experience that this company will not go backward in any of its good work.

With this I submit the annual report of the secretary, showing the resources, expenditures and liabilities of the company. We have no debt other than the three hundred and ninety-five thousand ($395,000) dollars, issue of the five hundred thousand ($500,000) dollars first mortgage bonds, one hundred and five thousand ($105,000) dollars of said issue having been cancelled.

The report of the superintendent covers the details of the work for the year in his department.

All of which is respectfully submitted.

R. E. CRAIG,
President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1, 1892.

To the President and Directors New Orleans Waterworks Company:

Gentlemen—While the past year has been a more active one with this company, in many respects, than its predecessor, still it has been, to a large extent, spent in an attitude of waiting.

Waiting for the adoption of such policy or advance as the pending issues of litigation might determine, as to improvements in all the branches of the service of the company. Many things have been held in abeyance, such as the fuller or more liberal extension of mains; the cure of "dead ends;" increased efficiency and economy in the pumping service, by means of new machinery, and the improved character of the water supply by a filtering device.

The coming year promises an advance on all these lines, in the interest of the public as well as of the company, such as circumstances have not hitherto permitted.

THE PUMPING MACHINERY

has been kept in order during the year, by dint of careful watchfulness and timely repairs to same. Wear and tear have told greatly, upon both its efficiency and economy, during the past year or two; but notwithstanding this, whatever loss in economy may have been suffered by the company, no public duty has suffered nor any private service been stinted. On the contrary, the head or pressure has been increased during the year, and there

have been, here and there, occasional complaints that in private or domestic service the pressure is somewhat too great.

The public service, including the use of water by the Fire Department, has had especial attention, and no complaint has been made, either as to pressure or quantity, by those competent to make such a complaint.

This company has always admitted that the distribution of its mains does not compass the entire inhabited area of New Orleans, and also that the mains in some localities might be larger with advantage for fire purposes. These defects are not, however, either the errors or faults of this company as now constituted.

EXTENSIONS OF MAINS

have been made, both within the provisions of the company's charter and outside of same, and beyond those provisions in this regard. Extensions have always been made, and applications for same have always been stimulated and encouraged, when the provisions have been within the limits of the company's charter. The conclusion of factious litigation now permits the company to pursue a line of liberal policy in this respect. In this connection, I have recommended a reinforcing main for the district above Felicity street. This is now under your consideration.

The extensions of mains made during the past fiscal year are as follows, and constitute only a small part of what in this direction is under your contemplation in the immediate future:

613 feet three inch pipe on Dufossat street, between St. Charles avenue and Dryades street.

722 feet three inch pipe on Marengo street, between St. Charles avenue and Baronne street.

1680 feet six inch pipe on Chippewa street, between Jackson and Second streets.

4384 feet ten inch pipe on Canal street, between Claiborne and White streets.

608 feet three inch pipe on Prytania street, between Third and Washington streets.

1718 feet four inch pipe on Miro street, between Esplanade avenue and LaHarpe, and on LaHarpe, between Miro and Johnson streets.

1204 feet six inch pipe on Chestnut street, between Louisiana avenue and Antonine street.

927 feet three inch pipe on Antonine and Coliseum streets.

883 feet four inch pipe on State street, between St. Charles avenue and Jennette street.

Total, 12,739 feet or 2.41 miles.

WASTE.

This is a matter of standing complaint in the report of every waterworks superintendent in the United States. With us it is as great or greater than elsewhere, and amounts, as I fully believe, to over one-third of the amount of water recorded as pumped. The muddy character of the water we deliver has given it a cheap, if not an almost valueles estimate in the public mind. Enforcement of waste rules has consequently been very difficult. With the contemplated improvement in the character of the supply will come an improved appreciation of it, and a public opinion which will sustain the company in rigorously enforcing all its rules and regulations. This improvement will facilitate the wider adoption by us of the

METER SYSTEM.

Hitherto no meter made could long withstand the erosion and wearing effect of the sediment in the water, as this company has supplied it to consumers. We now have some forty-five meters in use, of various sizes, the principle value or use of which is to approximate, somewhat definitely, the amount of water used by consumers who question the correctness or fairness of a yearly or round-amount assessment.

There is no doubt but that the correct and fairest method of selling water is by measurement. When an unlimited privilege is sold, it is, as a rule, abused; rendering estimates for round

amount assessments very imperfect. The unknown quantity of waste is always present. For this reason the meter system is everywhere gaining ground both in popularity and practice, and the assessment plan is being abandoned as rapidly as circumstances will permit.

The cost of the meter and its maintenance, whether it should be borne by the water company or the consumer, is still a mooted question; and the managers of water departments are divided in opinion on the subject. So far, this company in its limited experience, has required the consumer to pay for the meter and to maintain it in good order at his own expense. Aside from the immense outlay involved in stocking the plant with meters by the company I am convinced that this is the best policy.

Before leaving this subject, I would say that the last report of the Registrar of the Water Department, Springfield, Mass., contains the following pithy statement on the subject of waste:

"In only two ways can the proper effect be obtained: by keeping a live inspector at each and every outlet of supply, both day and night, or by placing an approved meter on every supply pipe; the latter, of course, being the only practical course available."

To this I would add that it would be of valuable interest for this company to place a meter on each and every free or charitable hydrant supply to control the unpardonable waste which is not included in the contract between the company and the city, and which waste, if controlled, would, in a single year repay the cost of the meters and their settings.

WELLS AND CISTERNS.

There have been those among your stockholders who, during the past two or three years, have viewed with some apprehension what they considered a formidable rival in the so-called artesian wells which have been sunk or driven within that time. From the outset I have begged that this source of supply be ignored as

being transient in volume or quantity, and filthy in its character To-day I am able to say that experience with nearly every one of such wells bears out the correctness of this opinion, and that both local history and science endorse it.

As to the cisterns, or the above ground wooden tank system of water supply, which has seemed to menace the revenues of the company, I am able to say that it has grown steadily in its unpopularity, and is now condemned by the more intelligent of our people, and by the members of the present and preceding Boards of Health. It has proved not only objectionable as to character, but unreliable as to quantity.

I think I take no liberty, and exaggerate nothing in saying that the Board of Health will fully endorse filtered Mississippi River water as a wholesome family supply, infinitely superior to the cistern supply now so prevalent in New Orleans. It will be thus seen that with a liberal system of extension of mains such as you now contemplate, together with new machinery and a filtering plant, the immediate prospect before the company is a very flattering one.

CONDITION OF THE PLANT.

While the pumping engines have so far deteriorated below the points of economy and efficiency as to require new engines as now under your immediate contemplation, the general system is in fairly good repair. The main pipe distribution is in first class order and will stand two or three times the pressure now required of it.

The repairs made upon it during the year are entirely incidental, and in the matter of cost are not in excess of that or other plants of same age in other cities. These repairs have related mainly to leaking joints and, in only a few cases, to bursted mains. Valve screws in main gates occasionally wear out and have to be replaced. This requires the watchfulness which is constantly given to it. This allusion brings up the general subject of

INSPECTIONS.

These relate to both private services and the general main distribution. Private services are under constant espionage and include, in search and check of waste, night as well as day inspection and observation. The friction and discontent generated by this method impairs its practical efficiency to a large extent, and for reasons heretofore given. The inspection of the main distribution involves the examination of each and every fire hydrant and fire well, once in each month. In this particular I am glad to be able to report that we have been recently aided by the appointment of authorized representatives of the Fire Department who, as supervisors and witnesses, can testify at all times to the true and actual condition of all the fire hydrants, and the water pressure.

These monthly inspections are reported on in detail, countersigned by the accompanying fireman, and filed in the office.

In parenthesis, I may here say that the water pressure in our mains at any hour of the day or night can be verified by the record of two automatic gauges which I have placed, one in the office of the company, and one at the pumping station on the delivery side of the stand pipe.

The inspection also involves the examination, at stated times, of the main valves; and once a year the general "blowing off" or thorough cleansing of the entire pipe line of distribution of all the mud or sediment therein, as far as practicable.

THE RESERVOIR

is not now in practical use, nor if required for use is it in fit condition, owing to both defective walls and floors. The square of ground it occupies is valuable now only as an asset on the books of the company as so much vacant ground, plus the value of the mass of masonry upon it. It is kept about half filled with water to meet emergencies which are remote from probability.

In my last report I alluded to an offensive and troublesome growth of grass, in the west basins. In September last I emptied

these basins, cleaned them thoroughly and treated the floors and walls with a solution of chloride of lime. The growth has not reappeared.

The 48 inch valve on the suction pipe of the main engine had in past years been subjected to rough usage and after many repairs it became necessary to replace it by a new oe This was built and put in place by the Whitney Iron Works, in October.

The shoaling around our cribs at the river front has, I think, been cured by the erection of a line of revetment which will hold the batture accretion behind it. Shoaling from other causes than caving or sloughing of the batture can be quickly and cheaply remedied by dredging.

In September last, the city council, having granted permission for the laying of a switch track to Miller's wharf over our front and covering our intake pipes, I secured a written agreement from A. K. Miller, Meletta & Co., to the effect, first, that no cars shall, at any time, be parked or left standing on said switch; second, that whenever this company desires access to their suction pipes, or to lay others, A. K. Miller, Meletta & Co. are to remove, at their own expense, any obstruction caused by the existence of the track, and, third, that should any waterworks repair or work interfere with the use of the switch then its use is to be suspended during said work.

Some 218,000,000 of gallons water more have been pumped than in the preceding year.

Actual expenses for running the plant have been something less, except as to the item of coal consumed. which is some $4000 greater.

An inventory of tools on hand in the workshop and at the pumping station has been made and put on file in the office. I do not think it necessary to attach it hereto.

Respecrfully,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, APRIL 1, 1891, TO MARCH 31, 1892.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate	Gallons Oil	Lbs Tallow	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total									
1891														
April	133,321,982	64	1,278			28,513,930	579							
	113,654,360	50	1,026	4	2,308	25,661,000	615	8.50	5.¼	3 ft. 1 in	62	60	123	246,976,342
May	176,476,238	58	1,780			26,705,707	550							
	133,532,480	50	1,208	37	3,025	25,613,175	614	8.46	5.¼	4 ft. 9 in	82	62	165	310,008,718
June	202,799,414	64	2,265			26,393,479	495							
	138,674,380	50	1,185	88	3,538	27,098,039	649	8.37	5.¼	10 ft. 4 in	82	60	134	341,473,794
July	182,644,672	64	1,838			29,461,595	552							
	132,933,382	50	1,228	34	3,100	25,057,965	601	8.47	5.¾	10 ft. 6 in	83	62	163	315,578,054
August	184,167,094	64	1,974			27,674,838	518							
	142,797,020	50	1,436	28	3,438	23,044,256	552	8.47	5.¼	13 ft. 6 in	85	62	164	326,964,114
Sept	207,409,468	67	2,394			26,896,324	481							
	130,195,180	50	1,175	107	3,676	25,669,688	615	8.45	5.½	14 ft. 5 in	82	60	129	337,604,648
Oct	173,462,538	65	1,682			31,044,583	572							
	128,577,144	50	1,273	52	3,007	23,392,962	561	8.35	6.	15 ft. 10 in	97	62	169	302,039,682
Nov	154,249,138	67	1,551			30,881,852	553							
	137,927,980	50	1,370	36	2,957	23,323,587	559	8.34	6.	15 ft. 11 in	81	60	161	292,177,118
Dec	144,944,074	67	1,486			30,273,588	542							
	129,386,970	50	1,302	41	2,829	23,018,074	552	8.35	6.	15 ft. 3 in	84	63	166	274,331,044
Jan. 1892	131,664,964	63	1,270			30,262,207	576							
	125,974,480	50	1,243	69	2,582	23,472,457	563	8.42	5.⅜	12 ft. 3 in	70	62	136	257,639,444
Feb	131,143,944	64	1,261			30,849,930	578							
	115,994,600	50	1,138	79	2,478	23,606,514	566	8.43	5.¼	9 ft. 1 in	64	61	105	247,138,544
March	132,315,746	63	1,233			31,330,031	596							
	110,077,920	50	1,088	82	2,403	23,375,443	562	8.55	6.	6 ft. 11 in	70	63	126	242,393,666
Totals & Averages.	3,494,325,168		34,684	657	35,341		542	8.43	5.60		942	737	1741	3,494,325,168
							584							

13

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	757	
Holly	165	
Underground	122	
Mathew	61	
Iron Case	36	
Boston	5	
	—	1146
Fire wells		51
Blow-offs		23
		1220
Main stop cocks or gates		593

DISTRIBUTION—CAST IRON PIPES.

3 inch	39.173 ft.	10 inch	27.984 ft.	20 inch	2.300 ft.
4 inch	74.267 ft.	12 inch	8.375 ft.	24 inch	2.400 ft.
6 inch	102.450 ft.	16 inch	21.175 ft.	30 inch	16.100 ft.
8 inch	103.150 ft.	18 inch	16.400 ft.	36 inch	3.600 ft.

Or say, 79 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST EIGHT YEARS.

	MEAN TEMPERATURE.										RAIN FALL.								
	1884	1885	1886	1887	1888	1889	1890	1891	1892		1884	1885	1886	1887	1888	1889	1890	1891	1892
Jan.	47	52	39	51	56	51	65	53	49	Jan.	4.35	9.70	7.53	4.26	3.29	6.51	.66	3.75	5.87
Feb.	61	53	42	65	59	52	64	62	61	Feb.	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42	0.04
Mar.	65	58	58	62	60	58	62	61	59	Mar.	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82
Apr.	68	70	65	68	70	70	70	68	.....	Apr.	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.28	.....
May	76	74	72	75	73	74	74	74	.....	May	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	.....
June	79	82	79	78	77	78	80	81	.....	June	8.60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	.....
July	85	83	80	80	81	83	81	81	.....	July	4.12	6.15	4.35	7.85	2.04	9.13	6.59	4.57	.....
Aug.	82	75	81	81	75	81	80	81	.....	Aug.	.87	4.25	2.40	7.42	22.74	5.59	3.62	1.69	.....
Sept.	81	72	78	77	75	79	77	78	.....	Sept.	3.12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	.....
Oct.	74	56	69	69	68	70	69	68	.....	Oct.	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	.....
Nov.	60	51	59	61	62	59	64	60	.....	Nov.	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	.....
Dec.	59	46	51	53	51	64	56	56	.....	Dec.	8.01	4.38	2.57	7.56	3.68	.67	2.58	3.93	.....

MATERIALS USED IN MAKING EXTENSIONS.

1 6x3 inch four way branch.
2 6x4 inch four way branches.
1 6x6 inch four way branch.
1 8x6 inch four way branch.
1 3x3 inch three way branch.
1 8x3 inch three way branch.
6 6x4 inch three way branches.
6 10x4 inch three way branches.
2 10x6 inch three way branches.
1 10x8 inch three way branch.
1 8x4 inch reducing pipe.
2 4 inch goose necks.
4 6 inch sleeves.
1 8 inch sleeve.
3 10 inch sleeves.
2 3 inch ⅛ bends.
4 4 inch ⅛ bends.
8 10 inch ⅛ bends.
4 3 inch ¼ bends.
2 4 inch ¼ bends.
1 6 inch ¼ bend.
4 6 inch sleeves.
2 8 inch sleeves.
3 10 inch sleeves.
7 3 inch Chapman valves.
3 4 inch Chapman valves.
3 6 inch Chapman valves.
3 10 inch Chapman valves.
16 Morgan frames and covers.
2 Cast iron frames and covers.
2 Cypress cases.
1 3 inch cypress plug.

MATERIALS USED IN MAKING EXTENSIONS—Continued.

3 4 inch cypress plugs.
5 6 inch cypress plugs.
1 10 inch cypress plug.
2888 Feet 3 inch pipe.
2697 Feet 4 inch pipe.
2897 Feet 6 inch pipe.
20 Feet 8 inch pipe.
4384 Feet 10 inch pipe.
10 Holly fire hydrants.
2 Wooden cased fire hydrants.
2 Cypress cases and covers.
9264 Pounds pig lead.
450 Pounds hemp packing yarn.
6177 Pounds coal.
40 Barrels lime.
15 Gallons insurance oil.
1043 Feet 3x4 inch scantling.
631 Feet 4x4 inch scantling.
940 Feet 3x9 inch lumber.
63 Feet 3x12 inch lumber.
276 Feet 4x12 inch lumber.
780 Feet 12x12 inch lumber.
14 Yards asphalt paving.
2 Lengths 16 inch pipe.

WORK DONE AND MATERIAL USED IN STREET SERVICE.

2 Leaks on 36 inch pipe.
24 Leaks on 30 inch pipe.
340 Leaks on 3 inch to 20 inch pipes.
20 Broken main pipes renewed with new pipes.
3 Lengths 3 inch pipe.

Work Done and Materials Used in Street Service—Continued.

4 Lengths 4 inch pipe.
1 Length 6 inch pipe.
1 Length 8 inch pipe.
1 Length 10 inch pipe.
3 3 inch sleeves.
4 4 inch sleeves.
1 6 inch sleeve.
1 8 inch sleeve.
1 10 inch sleeve.
450 Pounds pig lead.
50 Pounds packing yarn.
39 Main stop cocks furnished with new screws, as follows:
7 3 inch Thompson & West iron screws.
4 4 inch Thompson & West iron screws.
8 6 inch Thompson & West iron screws.
10 8 inch Thompson & West iron screws.
1 12 inch Thompson & West iron screw.
4 16 inch Thompson & West iron screws.
2 18 inch Thompson & West iron screws.
1 6 inch Whittier, or Boston iron screw.
1 8 inch Ludlow iron screw.
1 8 inch Ludlow brass screw.
78 Packing box bolts and nuts.
788 Joints caulked.
355 Packings renewed.
180 ⅝ inch bolts and nuts.
50 ⅝ inch washers.
316 Leaking cock stops repaired.
2 New glands, or packing box caps.
632 New packing box bolts and nuts.
3 Cypress cases.

Work Done and Materials Used in Street Service—Continued.

33 Wooden frames.
3 Cast iron frames and covers to replace broken ones.

Fire Wells.

50 Leaking fire well stop cocks repaired.
100 New packing box bolts and nuts.
100 Joints caulked.
50 Packings renewed.
21 Leaking blow off stop cocks repaired.
42 New packing box bolts and nuts.
42 Joints caulked.
21 Packings renewed.
3 New fire well keys.
7 New set screws.
15 New $\frac{3}{8}$ inch bolts and nuts.
3 New stop cocks to replace broken ones.
1 4 inch Chapman valve for blow off.
1 6 inch Chapman valve for main pipe.
1 8 inch Chapman valve for fire well.
4 Feet 4 inch pipe.
4 Feet 6 inch pipe.
4 Feet 8 inch pipe.
1 4 inch sleeve.
1 6 inch sleeve.
1 8 inch sleeve.
120 Pounds pig lead.
12 Joints caulked.
11 Pounds hemp packing yarn.
190 Pounds coal.
394 Leaking wooden cased fire hydrants repaired.
98 Wrought iron rods.
98 Wrought iron screws and clamps.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

196 Wrought iron stirrups and nuts.
98 Wrought iron buttons.
98 Wrought iron slats.
196 Wrought iron keys to fasten screw clamps.
56 Wrought iron hooks for top staves.
2 Wrought iron top bands.
6 Wrought iron middle bands.
4 Wrought iron bottom bands.
98 Cast iron valve flanges, small.
98 Cast iron valve flanges, large.
3 Cast iron covers with hinges.
2 Brass nozzles.
12 New cypress cases and covers with hinges.
56 New cypress top staves.
2 New cypress back staves.
9 New cypress bottom staves.
1 Broken fire hydrant replaced with new one.
1 Wooden cased fire hydrant removed and replaced by Philadelphia fire hydrant.
2 New Joints.
2 Joints caulked.
2 Packings renewed.
2 New gum valves.
7 Leaking Philadelphia fire hydrants repaired.
7 Wrought iron rods.
7 Wrought iron screws and clamps.
14 Wrought iron stirrups and nuts.
7 Wrought iron buttons.
7 Wrought iron slats.
14 Wrought iron keys.
7 Cast iron valve flanges, small.

Work Done and Materials Used in Street Service—Continued.

7 Cast iron valve flanges, large.
2 Cast iron covers, with hinges.
3 Cast iron covers, with hook on back of case.
5 Cast iron cases and covers, with hinges.
2 Cast iron cases and covers, with hooks.
1 Brass nozzle.
7 New joints.
7 Joints caulked.
7 Packings renewed.
50 Pounds pig lead.
5 Pounds hemp packing yarn.
240 Pounds coal.
7 Gum valves.
100 Pounds ⅝ washers.
50 Pounds ¾ washers.
100 ⅝ inch bolts.
100 Pounds white lead.
650 Pounds pig lead in all repairs.
100 Pounds hemp packing yarn in all repairs.
174 Leaking Holly fire hydrants repaired.
105 Wrought iron screws covered with brass.
105 Cast iron valves.
105 Cast iron valve seats.
3 Cast iron ferrules to cover screws.
1 Cast iron gland for packing boxes.
13 Cast iron top covers.
2 Cast iron jackets or outside section.
229 ½ inch bolts.
15 ⅝ inch bolts and nuts.
105 New joints.
105 Joints caulked.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

105 Packings renewed.
300 Pounds pig lead.
30 Pounds hemp packing yarn.
600 Pounds coal.
105 New gum valves.
4 Leaking Mathew hydrants repaired.
4 Cast iron top nuts.
4 Hollow brass.
3 ½ inch bolts and nuts.
7 Joints caulked.
7 Packings renewed.
3 New gum valves.
3 Leaking Boston fire hydrants repaired.
3 ½ inch bolts and nuts.
3 Joints caulked.
3 Packings renewed.
3 Gum valves.
18 Leakings under ground hydrants.
12 Copper rods.
6 Wrought iron rods.
18 Wrought iron screws without clamps.
36 Wrought iron stirrups and nuts.
18 Wrought iron buttons.
18 Wrought iron slats.
18 Cast iron valve flanges, small.
18 Cast iron valve flanges, large.
1 Brass nozzle.
18 Brass nuts for screws.
4 Boiler iron covers.
2 Cypress cases.
18 New joints.
18 Joints caulked.

WORK DONE AND MATERIALS USED IN STREET SERVICE—Continued.

18 Packings renewed.
180 Pounds pig lead.
12 Pounds hemp packing yarn.
500 Pounds coal.
18 Gum valves.
4595 Yards stone paving in all repairs.
1425 Yards flag paving in all repairs.
1884 Yards brick paving in all repairs.
6 Yards Schillinger paving in all repairs.
1568 Loads river sand in all repairs.
75 Loads cinders.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS.

THOMPSON & WEST IRON SCREWS FOR MAIN STOP COCKS.

7 3 inch iron screws.
14 4 inch iron screws.
5 6 inch iron screws.
8 8 inch iron screws.
9 10 inch iron screws.
20 12 inch iron screws.
18 16 inch iron screws.
13 18 inch iron screws.

WHITTIER OR BOSTON IRON SCREWS.

12 6 inch iron screws.
12 8 inch iron screws.
12 10 inch iron screws.
12 12 inch iron screws.
12 20 inch iron screws.

CHAPMAN IRON SCREWS.

6 3 inch iron screws.

Materials on Hand for Street Service Repairs—Continued.

6 6 inch iron screws.
6 8 inch iron screws.
7 10 inch iron screws.

Eddy or R. D. Wood Iron Screws.

4 6 inch iron screws.
12 8 inch iron screws.
2 10 inch iron screws.
3 12 inch iron screws.

Ludlow Stop Cock Screws.

2 6 inch brass screws.
2 8 inch brass screws.
12 6 inch iron screws.
10 8 inch iron screws.

Boston Stop Cock Screws.

9 6 inch brass screws.
12 8 inch brass screws.
2 6 inch iron screws.
1 8 inch iron screw.

Cast Iron Unfinished Glands for Stuffing Boxes.

43 Unfinished cast iron glands, from 3 inch to 12 inch.
35 Unfinished cast iron glands, from 12 inch to 18 inch.
35 Finished cast iron glands, from 4 inch to 8 inch.
6 ⅝ inch bolts and nuts.
60 Packing box bolts and nuts.
1 Cypress case for main stop cocks.
2 Wooden frames for main stop cocks.
554 Pounds pig lead.
59 Pounds hemp packing yarn.

Materials on Hand for Street Service Repairs—Continued.

Milwaukee Ferrules on Hand.

97 ½ inch ferrules.
80 ⅝ inch ferrules.
88 ¾ inch ferrules.
8 Wooden cased fire hydrants in repair.
1 Wooden cased fire hydrant not in repair.
4 Philadelphia fire hydrants in repair.
4 Underground fire hydrants in repair.
38 Wrought iron rods for wooden cased fire hydrants.
45 Wrought iron rods for Philadelphia fire hydrants.
11 Wrought iron rods for underground fire hydrants.
6 Copper rods for underground fire hydrants.
50 Wrought iron screws without clamp.
26 Wrought iron stirrups and nuts, short.
19 Wrought iron stirrups and nuts, long.
90 Wrought iron buttons for fire hydrant rods.
130 Wrought iron slats for fire hydrant rods.
75 Wrought iron keys for screw clamp for fire hydrants.
30 Wrought iron middle bands for fire hydrant cases.
42 Wrought iron bottom bands for fire hydrant cases.
145 Cast iron valve flanges for fire hydrants, small.
93 Cast iron valve flanges for fire hydrants, large.
80 Hooks for wooden cased fire hydrants.
9 New cypress cases for fire hydrants.
10 New top staves and hooks for fire hydrant cases.
51 New cypress staves for fire hydrant cases.
3 Brass nuts for underground fire hydrants.
31 Brass nozzles for fire hydrants.
200 Gum valves.

For Holly Fire Hydrants

7 Wrought iron screws covered with brass.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

210 Cast iron ferrules to cover screws.
9 Cast iron valves for single nozzles.
2 Cast iron valves for double nozzles.
9 Cast iron valve seats for single nozzles.
2 Cast iron valve seats for double nozzles.
4 Cast iron glands for packing boxes.
2 Cast iron top covers not in repair.
230 ½ inch bolts for top covers.
267 ⅝ inch bolts and nuts.
6 Gum valves.
47 Pounds ½ inch mixed gum packing.
95 Pounds 5-16 inch patent packing for main stop cocks.
11 Pounds 7-16 inch patent packing for main stop cocks.

FOR MATHEW FIRE HYDRANTS.

54 Brass hollow screws or nuts.
3 Cast iron nuts for top.
48 Gum valves.

FOR BOSTON FIRE HYDRANTS.

8 ⅝ inch bolts for top covers.
4 Gum valves.

WORK DONE AND MATERIALS FURNISHED FOR PLUMBERS.

1 3 x 3 inch three way branch.
1 8 x 4 inch three way branch.
1 8 x 4 inch reducing pipe.
3 3 inch ¼ bends.
2 4 inch ¼ bends.
1 8 inch ¼ bend.
1 3 inch sleeve.
1 8 inch sleeve.

Work Done and Materials Furnished for Plumbers---Continued.

1 10 inch saddle.
1 3 inch Chapman valve.
2 4 inch Chapman valves.
36 feet 3 inch pipe.
18 feet 4 inch pipe.
1 Ground fire hydrant, cast frame and cover.
1 Cast iron frame and cover.
2 Cypress cases.
112 Pounds pig lead.
11 Pounds hemp packing yarn.
200 Pounds coal.
47 Yards paving.
23 ½ inch ferrules.
88 ⅝ inch ferrules.
47 ¾ inch ferrules.
66 Ditches dug.
101 Holes drilled.
165 Yards paving.
6 Wooden cased fire hydrants repaired.
3 Underground fire hydrants repaired.
4 Wrought iron rods.
3 Copper rods.
4 Wrought iron screws, with clamps.
3 Wrought iron screws, without clamps.
14 Wrought iron stirrups and nuts.
14 Cast iron valve flanges.
56 Pounds pig lead.
8 Pounds hemp packing yarn.
7 Gum valves.
15 Yards flagging.
12 Main stop cocks closed at several places.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

237 Lengths of 3 inch pipe 12 feet long.
189 Lengths of 4 inch pipe 12 feet long.
188 Lengths of 6 inch pipe 12 feet long.
34 Lengths of 8 inch pipe 12 feet long.
1 Length of 8 inch pipe 11 feet long.
47 Lengths of 10 inch pipe 12 feet long.
3 Lengths of 10 inch pipe 10 feet long.
20 Lengths of 12 inch pipe 12 feet long.
10 Lengths of 16 inch pipe 12 feet long
6 Lengths of 18 inch pipe 12 feet long.
2 Lengths of 20 inch pipe 12 feet long.
1 Length of 20 inch pipe 10 feet long.
2 Lengths of 24 inch pipe 12 feet long.
22 Lengths of 30 inch pipe 12 feet long.
1 Length of 30 inch pipe 11 feet long, no bell.
1 Length of 30 inch pipe 8 feet long, no bell.
6 Lengths of 36 inch pipe 12 feet long.
1 Length of 36 inch pipe 9 feet long, no bell.
1 Length of 48 inch pipe 12 feet long.
45 Feet of 3 inch pipe, in pieces.
56 Feet of 4 inch pipe, pieces.
17 Feet of 8 inch pipe, in pieces.
40 Feet of 10 inch pipe, in pieces.

SPECIALS.

9 Reducers, 4 to 3 inches, bell and spigot ends.
6 Reducers, 6 to 4 inches, bell and spigot ends.
6 Reducers, 8 to 3 inches, bell and spigot ends.
6 Reducers, 8 to 4 inches, bell and spigot ends.
4 Reducers, 8 to 6 inches, bell and spigot ends.
8 Reducers, 8 to 6 inches, spigot ends.
1 Reducer, 12 to 6 inches, bell and spigot ends.

SPECIALS—Continued.

2 Reducers, 12 to 8 inches, bell and spigot ends.
1 Reducer, 20 to 12 inches, bell and spigot ends.
16 3 inch sleeves, 18 inches long.
67 4 inch sleeves, 18 inches long.
41 6 inch sleeves, 18 inches long.
1 8 inch sleeve, 12 inches long.
20 8 inch sleeves, 18 inches long.
1 10 inch sleeve, 8 inches long.
3 10 inch sleeves, 10 inches long.
2 10 inch sleeves, 14 inches long.
2 10 inch sleeves, 18 inches long.
5 12 inch sleeves, 9 inches long.
3 12 inch sleeves, 18 inches long.
1 16 inch sleeve, 12 inches long.
2 16 inch sleeves, 15 inches long.
1 16 inch sleeve, 30 inches long.
2 18 inch sleeves, 15 inches long.
1 24 inch sleeve, 18 inches long.
2 36 inch sleeves, 15 inches long.
1 36 inch sleeve, 30 inches long, (in two halves).
8 Three way branches 3 x 3 x 3, 2 bells.
5 Three way branches 3 x 3 x 3, 3 bells.
6 Three way branches 4 x 4 x 3, 3 bells.
15 Three way branches 4 x 4 x 4, 2 bells.
5 Three way branches 6 x 6 x 3, 2 bells.
3 Three way branches 6 x 6 x 4, 3 bells.
5 Three way branches 6 x 6 x 6, 2 bells.
6 Three way branches 8 x 8 x 3, 2 bells.
2 Three way branches 8 x 8 x 3, 3 bells.
4 Three way branches 8 x 8 x 4, 2 bells.
1 Three way branches 8 x 8 x 4, 3 bells.
5 Three way branches 8 x 8 x 6, 2 bells.
1 Three way branch 8 x 8 x 6, 3 bells.
3 Three way branches 8 x 8 x 8, 2 bells.
3 Three way branches 10 x 10 x 3, 2 bells.
3 Three way branches 10 x 10 x 4, 2 bells.

SPECIALS—Continued.

5 Three way branches 10 x 10 x 6, 2 bells.
6 Three way branches 12 x 12 x 6, 2 bells.
2 Three way branches 12 x 12 x 8, 3 bells.
1 Three way branch 16 x 16 x 8, 3 bells.
5 Three way branches 30 x 30 x 12, 3 bells.
2 Three way branches 36 x 36 x 8, 1 bell.
10 Four way branches 3 x 3 x 3 x 3, 3 bells.
4 Four way branches 4 x 4 x 4 x 4, 3 bells.
10 Four way branches 4 x 4 x 4 x 4, 4 bells.
6 Four way branches 6 x 6 x 4 x 4, 3 bells.
14 Four way branches 6 x 6 x 6 x 6, 4 bells.
10 Four way branches 8 x 8 x 3 x 3, 3 bells.
13 Four way branches 8 x 8 x 4 x 4, 3 bells.
6 Four way branches 8 x 8 x 6 x 6, 4 bells.
9 Four way branches 8 x 8 x 8 x 8, 3 bells.
2 Four way branches 8 x 8 x 8 x 8, 4 bells.
8 Four way branches 10 x 10 x 3 x 3, 3 bells.
3 Four way branches 10 x 10 x 4 x 4, 3 bells.
8 Four way branches 10 x 10 x 6 x 6, 3 bells.
3 Four way branches 10 x 10 x 8 x 8, 3 bells.
4 Four way branches 12 x 12 x 6 x 6, 3 bells.
2 Four way branches 12 x 12 x 8 x 8, 3 bells.
5 Four way branches 16 x 16 x 6 x 6, 3 bells.
5 Four way branches 16 x 16 x 8 x 8, 3 bells.
1 Four way branch 16 x 16 x 12 x 12, 3 bells.
1 Four way branch 20 x 20 x 8 x 8, 3 bells.
1 Four way branch 20 x 20 x 10 x 10, 3 bells.
1 Four way branch 30 x 30 x 8 x 8, 3 bells.
12 3 inch quarter bends, long.
12 4 inch quarter bends, long.
14 6 inch quarter bends, long.
1 6 inch quarter bend, short.
6 8 inch quarter bends, long.
3 10 inch quarter bends, long.
10 3 inch eighth bends.
12 4 inch eighth bends.
9 6 inch eighth bends.
9 8 inch eighth bends.
6 10 inch eighth bends.

SPECIALS—Continued.

3	12 inch eighth bends.
2	30 inch eighth bends.
5	3 inch parallel cypress plugs.
7	6 inch parallel cypress plugs.
12	8 inch parallel cypress plugs.
12	10 inch parellel cypress plugs.
4	10 inch taper cypress plugs.
10	12 inch taper cypress plugs.
7	8 inch cast iron plugs.
1	18 inch cast iron plug.
1	30 inch cast iron plug.
2	Square frames, complete, for main gates.
1	Square cover for square frame.
6	Morgan cases, complete, for main gates.
4	Middle sections of Morgan cases.
6	Bottom sections of Morgan cases.
6	Illinois cases, complete, for main gates.
15	Extension pieces for raising fire hydrants.
13	Holly fire hydrants.
13	Wood case fire hydrants without cases.
14	Covers for wood case fire hydrants.
77	Bands for wood case fire hydrants.
5	Jackets for double nozzle Holly fire hydrants.
8	Jackets for single nozzle Holly fire hydrants.
30	Top guards for Holly fire hydrants.
14	Valve rods for Holly fire hydrants.
15	Brass glands for Holly fire hydrants.
138	Wood staves for wood case fire hydrants.
2	3 inch Chapman valves.
8	4 inch Chapman valves.
4	6 inch Chapman valves.
3	8 inch Chapman valves.
4	10 inch Chapman valves.
3	8 inch Boston valves.
2	8 inch old style, single face.
1	10 inch R. D. Wood valve.
1	20 inch McGuire valve.

CASH RECEIPTS FOR YEAR ENDING MARCH 31ST, 1892

Cash on hand March 31, 1891			$ 75,136 73
Cash received from water rates from April 1, 1891, to March 31, 1892, inclusive			208,054 98
Cash received from materials sold and labor	$491 46		
Cash received from street service repairs ac't	841 39		
Cash received from materials and fixtures ac't	485 60		
Cash received from hydrant service account	10 50		
Cash received from plumbers' licenses	25 00		
Cash received from ashes, etc., sold	36 30		
Cash received from sand sold	43 25		
Cash received from Pickwick Club bonds	200 00		
Cash received from int. on Pickwick Club bonds	8 00		
Cash received from court costs returned by United States Supreme Court	204 95		2,346 45
			$285,538 18

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1892.

Pumping Service:		
Wages, repairs, etc.		$ 13,560 64
Hydrant Service:		
Wages, etc.		9,095 70
Office Expenses:		
Salaries, wages, etc.		8,865 47
Street Service Repairs:		
Wages, materials, etc.		7,034 04
Improvements and Extensions:		
Wages, labor and materials bought		16,403 84
Attorneys' Fees and Court Costs:		
Fees, costs and stamps		8,743 25
Materials and specials bought		674 30
Matured coupons paid		24,045 00
Coal purchased		12,494 11
State taxes, 1891		7,000 00
City taxes, 1891		20,200 00
State license, 1892		250 00
Dividends paid		80,176 00
Water rates refunded..... First District, 346 44; Second District, 564 50		910 94
Batture sand account—wages paid		305 05
Stationery and printing		544 00
Telephones		230 00
Keep horse, buggy and repairs		362 80
Rent, office and shop		1,550 00
Miscellaneous and petty expenses		119 37
Cash in bank and petty cash		72,973 67
		$285,538 18

Coal consumed, $14,255 06.

GENERAL BALANCE MARCH 31, 1892.

ASSETS—		
Invested capital	$2,000,000 00	
Cash on hand	72,973 67	
Materials and fixtures on hand	7,627 82	
Coal on hand	1,500 68	
Improvements and extensions, amount invested in	438,554 00	
Cash deposited with New Orleans Gaslight Company	10 00	
Due by U. S. Customhouse	1,200 02	
Due by U. S. Mint	1,125 00	
Due by Illinois Central Railroad Company	825 00	
Due by Mississippi Valley Railroad Company	1,250 00	
Due by City of New Orleans	5,815 00	
Batture sand on hand	261 80	
		$2,531,142 99
LIABILITIES—		
Capital stock	$2,000,000 00	
Bonds issued	395,000 00	
Dividends unpaid	903 00	
Coupons due and unpaid	165 00	
Profit and Loss	135,074 99	
		$2,531,142 99
Bills in course of collection for water rates not included in above assets		$ 5,727 63

Robert L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being by me, notary, duly sworn, deposes and says that the above is a true and corrrect transcript from the books of the company.

ATTEST:

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, notary, this 7th day of April, A. D. 1892.

{SEAL.}

CHAS T. SONIAT,
Notary Public.

FIFTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks Company.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
H. ABRAHAM,	"
G. W. NOTT,	"
HON. JOHN FITZPATRICK, MAYOR,	EX-OFFICIO.
HON. C. H. SCHENCK, CITY TREASURER,	"
HON. C. TAYLOR GAUCHE, COMMISSIONER PUBLIC BLDGS.,	"

April 1st, 1893.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD.—62866.
1893.

PRESIDENT'S REPORT.

NEW ORLEANS, APRIL 5, 1893.

To the Board of Directors of the New Orleans Waterworks Company:

Gentlemen—Herewith I hand you report from the Secretary and Treasurer showing the financial condition of the company, and the report of the Superintendent covering in detail the general progress of the company during the past twelve months.

On the 19th of November last we received written notice from the filter company that they would be ready to commence the official test of the filter plant within thirty days. Having already made payment on account of the new pumping engines, and the erection of the necessary buildings for these plants, ($97,058.40 to date), we proceeded to negotiate for the sale of the $250,000.00, five per cent. second mortgage bonds and sold them at par and accrued interest, deliverable at the pleasure of the company. Thus far only $125,000.00 have been delivered (the remainder being in possession of the company).

The delay on the part of the filter company to put their plant in operation has been a grave disappointment to us and we have reason to believe it equally so to them. They tell us now the plant will be under successful operation in a few days. In anticipation of clear water the system of metering the water supply was proposed to our large consumers and met with general approval. This was inaugurated some four months ago and the system changes the plan of payment from the old method of yearly assessment, payable in advance, to monthly payments by meter record. The collections to date therefore do not include the nine months' dues from our largest water takers, heretofore collected in advance.

The prospect of clear water has stimulated the demand for extensions of our mains, as shown in the Superintendent's report, we having spent something over $17,000.00 during the year in this way. This brings, of course, additional customers. We have fortunately been freed from law expenses, and the revenues of the company have gradually increased. This with muddy water, and we hope for further improvement when we do get clear water. Everything has been done to maintain the conditions of the contract between the city and the company, and we have enjoyed the benefit of the advice and presence of the city members of the board in the management of the affairs of the company.

The stockholders are to be congratulated upon the improved value of their stock.

Respectfully,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, APRIL 1, 1893.

To the President and Board of Directors New Orleans Waterworks Co.:

Gentlemen—You have inaugurated a system for the delivery of pure water under such a contract as warrants expectance of success in operation. You have also placed in position two pumping engines of capacity of ten million gallons each in twenty-four hours.

At the date of this report neither the guaranteed success of the filter plant or the performance of the new pumping machinery have been demonstrated. The test trials of both may begin within a fortnight.

One of the new pumping engines is in operation. The second will be ready for service in a few days. I will then proceed to blow off and clean out the entire distribution of our mains (some eighty-two miles), in order to allow the most prompt enjoyment by our people of the clear water supply which we hope and expect from our filter plant within the next thirty or sixty days.

THE ACTUAL WORK OF THE YEAR,

aside from the erection of a filter plant and new pumping machinery, has chiefly been in the matter of

EXTENSIONS,

You will please bear in mind that these extensions have been made under "muddy water conditions," but they have amounted to three and three-fifth miles as against two and two-fifth miles laid during your last fiscal year.

These extensions, made since my last report, are as follows:

In April—Four-inch pipe on Dauphine street, Piety to Desire street (one main gate)..... 445 feet.

In May—Six-inch pipe on Seventh street, from Magazine to St. Charles (one main gate)..... .....2084 feet.

And of four-inch pipe (with two main gates)..... 367 feet.

In June—Six-inch pipe on Marengo street, from St. Charles to Coliseum (with one main gate.....)1028 feet.

In June—Four-inch pipe on Berlin street, from St. Charles to St. Denis street, and on Baronne, Berlin to Napoleon avenue (with one main gate).....1781 feet.

In June—Four-inch pipe on Henry Clay avenue, from St. Charles to Green street (with one main gate) .....1160 feet.

In June—Four-inch pipe on Henry Clay avenue, from St. Charles to Pitt street (with one main gate. .....1624 feet.

In July—Eight-inch pipe on Esplanade avenue, from Tonti street to Fair Grounds (with five fire hydrants and three main gates) .....5413 feet.

In August—Six-inch pipe on Prytania street, from General Taylor to Marengo (with one main gate) 1050 feet.

In August—Four-inch pipe on Penniston street, from Prytania to Coliseum (one main gate)..... 526 feet.

In February, 1893—Eight-inch pipe on Napoleon avenue, from St. Charles to Laurel streets (with two main gates).....2836 feet.

In February—Six-inch pipe on Louisiana avenue, from St. Charles to Baronne (with one main gate) ..... 780 feet.

Total, 19,094 feet, or say 3 3-5 miles.

In connection with the subject of the extension of mains, I can not too earnestly beg your attention to the necessity for laying a large main along either Laurel or Annunciation streets, to reinforce the St. Charles avenue six-inch and eight-inch mains, which now extend to Audubon park, and which is unsupported

for a stretch of something like 8000 feet, besides collateral branches.

The continued extensions being made from this unsupported small main, and the fire protection which it is supposed to be able to supply, make it necessary that you lay a reinforcing main and connect it with St. Charles avenue by eight or ten-inch mains along Clay, Napoleon, Peters, and possibly, other avenues or streets.

Some time ago I made this suggestion the subject of a special report to your president, the details of which need not be here repeated.

Extensions are greatly hindered by the inability of the city, from financial reasons, to order the establishment of fire hydrants.

There is, however, now pending before the City Council a proposition to establish some forty or forty-five fire wells (instead of fire hydrants), which proposal, for good reasons, hereafter to be made apparent, should be opposed by this company.

The water distribution of New Orleans is bad enough, and the system amenable to sufficient adverse criticism, without establishing fire wells on small mains to add to the trouble. Fire wells, as understood and existing in New Orleans, are wholly unknown elsewhere.

FIRE PROTECTION

Is frequently asked for by firms and corporations, and promptly furnished except for what are known as

AUTOMATIC SPRINKLERS.

These your Superintendent has ignored and refused to recognize or to supply. He does not desire to make this company a partner in their failures, and has not yet learned what amount of salvage or percentage ought to be charged for the privilege of service they require.

In this connection your Superintendent feels assured of a fair amount of support from insurance men as to his objections.

YOUR PUMPING ENGINES.

I beg to ask your serious attention to what we know as our "main engine." It is somewhat antiquated, but it has been pronounced by competent authority to be a superb pump if overhauled, compounded and otherwise modernized. It will cost you about $8000.00 to do this.

I recommend that this work be done as soon as practicable after the operation of the new pumps is begun. It will be spare machinery, which is absolutely necessary, and it will take water from an independent suction main; and the experience of the past year has shown the value of such separate and independent access to the river. Please let me emphasize this suggestion.

The Knowles engine had as well be sold. It has never proved satisfactory or economical in duty performance, and will not be needed after your new plant has been fully inaugurated.

The old engine, erected in 1847, was dismantled in May, 1892, and sold for junk to make room for the new engine plant.

METERS.

The prospects of a clear water supply gives promise of avoidance of the guess-work assessment plan, which has never been satisfactory, either to the company or the consumer. Heretofore our muddy water cut and wore out meters in a remarkably short space of time. With clear water the life of a meter will be as great here as elsewhere.

Large consumers are taking kindly and cordially to the system, and whether it increases revenues or not, it will ensure waste prevention, and will place your company on the list of those who, by the meter system, have improved their financial record in a marked manner. This is the history of the meter system everywhere.

You need a new boiler plant. I beg your attention to the matter.

The present boiler plant was established to meet a much lower pressure demand than now required by new pumping engines and filter plant.

The boilers have been reinforced to meet the demands of local inspectors and the Hartford Insurance Company, but in order to avail yourselves of the economy involved in the adoption of modern machinery, you need a new boiler plant which will sustain a pressure that no reinforcement of present boilers will accomplish.

The change will pay.

Since my last report there have been erected a new building for the new pumping engines, a brick storage building and a brick building for warehousing oil and other materials, and for pumping machinery for coagulants in connection with the filter plant.

The engine record which I hand you with this report is unreliable but as nearly correct as circumstances have permitted during the disturbed condition of affairs during the past year.

Pressure has been maintained in your distribution to a high standard during the year, except for some three days in December, 1892, when the suction pipe of the main engine was ruptured. No public or private interest was injured by the accident. It was caused by batture movement, caused to some extent by pile-driving while laying the new suction pipe to new pump plant.

Respectfully submitted,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, APRIL 1, 1892, TO MARCH 31, 1893.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate	Gallons Oil	Lbs Tallow	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total									
1892														
April	140 039,436	61	1,361			29,090,912	572							
	124,318,292	50	1,182	61	2,604	24.372,222	584	8.56	6.	4 ft. 7 in	85	62	141	264,357,728
May	140,048,542	57	1,324			27,926,290	545							
	128,378,740	50	1,157	71	2,552	25,688,068	616	8.59	6.	1 ft. 8 in	84	62	144	268,427,282
June	150,826,778	57	1,473			27,026,021	568							
	126,542,026	50	1,167	47	2,687	25,127,631	602	8.55	6.	1 ft. 6 in	84	60	160	277,368,804
July	152,300,678	59	1,500			27.755,952	564							
	134,723,996	50	1,272	54	2,826	24,532,710	588	8.52	5.½	3 ft. 7 in	86	63	164	287,024,674
August	166,310,220	66	1,709			29,750,990	544							
	138,377,124	50	1,412	51	3,172	22,708,878	544	8.72	5.½	11 ft. 0 in	94	62	168	304,687,344
Sept	203,860,512	69	2,469			26,398,193	458							
	161,473,892	50	1,836	88	4,393	20,373,559	488	8.35	6.	14 ft. 2 in	96	47	128	365,334,404
Oct	197,184,712	73	2,386			27,957,614	459							
	174,979,396	50	2,107	54	4,547	19,237,123	461	8.40	6.	14 ft. 9 in	93	31	135	372,164,108
Nov	207,033,590	73	2,616			26,554,723	439							
	174,345,000	50	2,248	83	4,947	17,959,946	430	8.50	6.	15 ft. 6 in	93	31	124	381,378,590
Dec	189,043,724	70	2,263			27,089,770	464							
	169,245,254	50	2,042	23	4,328	19,193,710	463	8.50	5.¾	14 ft.10 in	102	18	144	358,288,978
Jan. 1893	145,205,808	73	1,679			29,243,864	480							
	128,716,200	50	1,413	61	3,153	21,090,238	506	8.50	6.	11 ft.11 in	100	37	165	273,922,008
Feb	139,210,180	71	1 577			29,026,322	490							
	117,563,199	50	1,243	52	2,872	21,895.424	525	8.50	5.½	11 ft. 8 in	87	41	149	256,773,379
March	145,709,709	70	1,394			33,890 569	585							
	121,915,392	50	1,212	82	2,688	23,299,138	558	8.55	6.½	5 ft. 3 in	134	19	155	267,625,101
Totals & Averages.	3,677,352,400		40,042	727	40,769						1138	533	1777	3,677,352,400

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	757	
Holly	170	
Underground	122	
Mathew	61	
Iron case	36	
Boston	5	
		1151
Fire wells		51
Blow-offs		23
		1125
Main stop cocks or gates		609

DISTRIBUTION—CAST IRON PIPES.

3 inch..... 39.173 ft.	10 inch .....27.984 ft.	20 inch..... 2.300 ft.
4 inch..... 80.170 ft.	12 inch..... 8.375 ft.	24 inch..... 2.400 ft.
6 inch.....107.392 ft.	16 inch.....21.175 ft.	30 inch.....16.100 ft.
8 inch.....111.399 ft.	18 inch .....16.400 ft.	36 inch..... 3.600 ft.

Or say, about 83 miles.

MEAN TEMPERATURE AND RAINFALL IN NEW ORLEANS FOR PAST NINE YEARS.

	MEAN TEMPERATURE.											RAIN FALL.									
	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893		1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Jan..	47	52	39	51	56	51	65	58	49	50	Jan..	4.35	9.70	7.53	4.26	3.29	6.51	.66	3.75	5.87	2.50
Feb..	61	53	42	65	59	52	64	62	61	61	Feb..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42	0.01	4.92
Mar..	65	58	58	62	60	58	62	61	59	61	Mar..	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3.49
Apr..	68	70	65	68	70	70	70	68	60	.....	Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	.....
May..	76	74	72	75	73	74	74	74	74	.....	May..	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	2.62	.....
June..	79	82	79	78	77	78	80	81	79	.....	June..	8.60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	.....
July..	85	83	80	80	81	83	81	81	80	.....	July..	4.12	6.15	4.35	7.85	2.04	9.13	6.59	4.57	7.46	.....
Aug..	82	75	81	81	75	81	80	81	82	.....	Aug..	.87	4.25	2.40	7.42	22.74	5.50	3.62	1.69	6.96	.....
Sept..	81	72	78	77	75	79	77	78	77	.....	Sept..	3.12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	6.33	.....
Oct...	74	56	69	69	68	70	69	68	71	.....	Oct...	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	2.14	.....
Nov..	60	51	59	61	62	59	64	60	62	.....	Nov..	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	3.55	.....
Dec...	50	46	51	53	51	64	56	56	56	.....	Dec...	8.01	4.38	2.57	7.56	3.68	.67	2.58	3.93	3.22	.....

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

142 pieces 3 inch pipe, 12 feet long.
190 pieces 4 inch pipe, 12 feet long.
215 pieces 6 inch pipe, 12 feet long.
225 pieces 8 inch pipe, 12 feet long.
49 pieces 10 inch pipe, 12 feet long.
6 pieces 12 inch pipe, 12 feet long.
8 pieces 16 inch pipe, 12 feet long.
4 pieces 18 inch pipe, 12 feet long.
4 pieces 20 inch pipe, 12 feet long.
2 pieces 24 inch pipe, 12 feet long.
23 pieces 30 inch pipe, 12 feet long.
13 pieces 36 inch pipe, 12 feet long.
1 piece 48 inch pipe, 12 feet long.
1 piece 30 inch pipe, 6 feet long, with bell.
1 piece 30 inch pipe, 9 feet long, with bell.
1 piece 36 inch pipe, 2 feet long, with bell.
2 pieces 36 inch pipe, 3 feet long, with bell
1 piece 36 inch pipe, 4½ feet long, with bell.
1 piece 36 inch pipe, 8 feet long, with bell.
1 piece 36 inch pipe, 4 feet long, with valve.
30 pieces various sizes, from 3 inch to 8 inch.

Three-Way Branches.

5 pieces 3 inch 3 x 3, 3 bells.
3 pieces 3 inch 3 x 3, 2 bells.
5 pieces 4 inch 4 x 3, 3 bells.
12 pieces 4 inch 4 x 4, 2 bells.
2 pieces 6 inch 6 x 3, 2 bells.
2 pieces 6 inch 6 x 4, 3 bells.
8 pieces 6 inch 6 x 4, 2 bells.
14 pieces 6 inch 6 x 4, 2 bells.
2 pieces 8 inch 8 x 3, 3 bells.

4183

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

5 pieces 8 inch 8 x 3, 2 bells.
8 pieces 8 inch 8 x 4, 2 bells.
11 pieces 8 inch 8 x 6, 3 bells.
13 pieces 8 inch 8 x 6, 2 bells.
22 pieces 8 inch, 8 x 8, 2 bells.
13 pieces 10 inch 10 x 3, 2 bells.
4 pieces 10 inch 10 x 4, 2 bells.
5 pieces 10 inch 10 x 6, 2 bells.
2 pieces 10 inch 10 x 8, 2 bells.
3 pieces 10 inch 10 x 10, 2 bells.
6 pieces 12 inch 12 x 6, 2 bells,
2 pieces 12 inch 12 x 8, 3 bells.
1 piece 16 inch 16 x 8, 3 bells.
5 pieces 30 inch 30 x 12, 3 bells.
2 pieces 36 inch 36 x 8, 1 bell.

FOUR-WAY BRANCHES.

9 pieces 3 inch 3 x 3, 3 bells.
3 pieces 4 inch 4 x 4, 3 bells.
10 pieces 4 inch 4 x 4, 4 bells.
11 pieces 6 inch 6 x 6, 4 bells.
10 pieces 8 inch 8 x 3, 3 bells.
11 pieces 8 inch 8 x 4, 3 bells.
2 pieces 8 inch 8 x 6, 4 bells.
1 piece 8 inch 8 x 8, 4 bells.
7 pieces 8 inch 8 x 8, 3 bells.
8 pieces 10 inch 10 x 3, 3 bells.
3 pieces 10 inch 10 x 4, 3 bells.
8 pieces 10 inch 10 x 6, 3 bells.
3 pieces 10 inch 10 x 8, 3 bells.
3 pieces 12 inch 12 x 6, 3 bells.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

2 pieces 12 inch 12 x 8, 3 bells.
5 pieces 16 inch 16 x 6, 3 bells,
5 pieces 16 inch 16 x 8, 3 bells.
1 piece 16 inch 16 x 12, 3 bells.
1 piece 20 inch 20 x 8, 3 bells.
1 piece 20 inch 20 x 10, 3 bells.
1 piece 30 inch 30 x 8, 3 bells.

BENDS.

9 3 inch quarter bends.
19 4 inch quarter bends.
8 6 inch quarter bends.
20 8 inch quarter bends.
3 10 inch quarter bends.

EIGHTH BENDS.

9 3 inch eighth bends.
20 4 inch eighth bends.
25 6 inch eighth bends.
10 8 inch eighth bends.
4 10 inch eighth bends.
2 30 inch easy bends.

REDUCERS.

7 4 x 3 reducers.
6 6 x 4 reducers.
5 8 x 3 reducers.
6 8 x 4 reducers.
11 8 x 6 reducers.
1 10 x 8 reducer.
1 10 x 6 reducer.
1 12 x 8 reducer.
1 16 x 12 reducer.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

1 18 x 16 reducer.
1 20 x 12 reducer.

SLEEVES.

3 3 inch sleeves, 18 inches long.
53 4 inch sleeves, 18 inches long.
25 6 inch sleeves, 18 inches long.
4 8 inch sleeves, 18 inches long.
1 8 inch sleeve, 12 inches long.
4 10 inch sleeves, 10 inches long.
1 10 inch sleeve, 14 inches long.
2 10 inch sleeves, 18 inches long.
1 10 inch sleeve, 24 inches long.
1 12 inch sleeve, 18 inches long.
2 16 inch sleeves, 15 inches long.
1 16 inch sleeve, 30 inches long.
2 30 inch sleeves, 16 inches long.
1 30 inch sleeve, 24 inches long.
2 36 inch sleeves, 15 inches long.
1 Sleeve, 36 inch split.

VALVES.

8 3 inch Chapman valves.
5 4 inch Chapman valves.
7 6 inch Chapman valves.
8 8 inch Chapman valves.
4 10 inch Chapman valves.
1 20 inch McGuire valve.
1 4 inch Rensselaer valve.
2 8 inch Rensselaer valves.
2 3 inch Ludlow valves.
1 8 inch Eddy valve.
19 Holly fire plug complete.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

9 Holly fire plug jackets.
30 Holly fire plug covers.
14 Holly fire plug rods.
15 Holly fire plug packing boxes.
12 Wooden case fire plugs.
1 Philadelphia fire plug.
3 Underground plugs.
15 Bottoms for Morgan frames, no covers.
6 Center pieces for Morgan frames, no covers.
2 Top pieces for Morgan frames, no covers.
7 Frames for street stop cocks.
2 Frames for underground plugs, no covers.
2 Fire plugs, Mathew's, neck broken.
153 Fire plug staves.
63 Middle bands.
2 2 inch wooden plugs for pipe.
2 6 inch wooden plugs for pipe.
4 8 inch wooden plugs for pipe.
13 10 inch wooden plugs for pipe.
8 12 inch wooden plugs for pipe.
4 8 inch C. I. plugs for pipe.
15 4 inch elevators.
3 Pumps and hose.

FOR PLUMBERS AND PRIVATE PERSONS; WORK DONE AND MATERIAL USED.

1 4x3 inch three way branch.
3 6x3 inch three way branches.
1 8x3 inch three way branch.
1 6x4 inch four way branch.
1 12x6 inch four way branch.
1 4x3 inch reducing pipe.

FOR PLUMBERS AND PRIVATE PERSONS; WORK DONE AND MATERIALS USED—Continued.

1 3 inch sleeve.
2 4 inch sleeves.
4 6 inch sleeves.
1 8 inch sleeve.
1 12 inch sleeve.
3 3 inch Chapman valves.
3 4 inch Chapman valves.
1 6 inch Chapman valve.
4 3 inch ¼ bends.
5 4 inch ¼ bends.
1 6 inch ¼ bend.
1 3 inch ⅛ bend.
1 4 inch saddle for 16 inch pipe.
492 3 inch pipes.
424 4 inch pipes.
16 6 inch pipes.
5 Morgan frames and covers.
3 New Holly fire hydrants.
5 Holly fire hydrants removed.
1 Underground fire hydrant removed and replaced with wooden cased fire hydrant.
1 New cypress case and cover with hinges.

NEW SCREWS PLACED, SERVICE STOP COCKS.

1 3 inch Thompson & West iron screw.
1 4 inch Chapman iron screw.

REPLACING BROKEN SERVICE PIPE.

12 Feet 4 inch pipe.
1 4 inch sleeve.
21 Pounds pig lead.
2 Pounds hemp packing yarn.

FOR PLUMBERS AND PRIVATE PERSONS; WORK DONE AND MATERIALS USED—Continued.

50 Pounds coal.
10 Yards paving.
1 Load cinders.

DRILLING AND DITCHING, AND TAPPING MAIN FOR PLUMBERS.

37 ¾ inch Milwaukee ferrules used.
81 ⅝ inch Milwaukee ferrules used.
78 ¾ inch Milwaukee ferrules used.
161 Holes drilled and tapped.
28 Ditches dug.
139 Yards pavement repaired.
7 Broken service pipes repaired by plumbers.
7 Ditches dug by the company.
6 Yards paving.
1 Load cinders.
1 Cast iron frame and cover.
1 Morgan Frame and cover.

MATERIALS USED IN MAKING EXTENSIONS.

1 3x3 inch three way branch.
1 4x4 inch three way branch.
3 8x4 inch three way branches.
1 8x6 inch three way branch.
1 4x4 inch four way branch.
3 6x4 inch four way branches.
3 6x4 inch four way branches.
3 8x4 inch four way branches.
2 8x6 inch four way branches.
4 8x8 inch four way branches.
1 4x3 inch reducing pipe.
1 8x3 inch reducing pipe.

MATERIALS USED IN MAKING EXTENSIONS--Continued.

1	8x6 inch reducing pipe.
3	4 inch ¼ bends.
8	4 inch ⅛ bends.
2	6 inch ¼ bends.
6	8 inch ¼ bends.
1	4 inch sleeve.
3	6 inch sleeves.
4	8 inch sleeves.
1	3 inch Chapman valve.
10	4 inch Chapman valves.
6	6 inch Chapman valves.
8	8 inch Chapman valves.
2	8 inch Boston or Whittier valves.
28	Feet 3 inch pipe.
7026	Feet 4 inch pipe.
4985	Feet 6 inch pipe.
8254	Feet 8 inch pipe.
5	New Holly fire hydrants.
20	Morgan frames and covers.
3	New cast iron frames and covers.
3	New wooden cases.
8	4 inch cypress plugs.
8	6 inch cypress plugs.
4	8 inch cypress plugs.
12927	Pounds pig lead.
561	Pounds hemp packing.
8550	Pounds coal.
45	Gallons insurance oil.
30	Feet wrought iron girder or chair to cross Broad street canal.
1376	Feet 2x4 inch scantling.
1150	Feet 3x4 inch scantling.
107	Feet 8x8 inch scantling.

MATERIALS USED FOR MAKING EXTENSIONS—Continued.

940 Feet 3x9 inch planks.
320 Feet 4x12 inch planks.
98 Feet 6x12 inch planks.
10056 Feet 1 inch cypress boards.
109 Yards asphalt paving.
14 Loads gravel.

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIR.

3 Leaks on 48 inch suction pipe.
2 Leaks on 36 inch pipe.
20 Leaks on 30 inch pipe.
353 Leaks on 3 inch to 20 inch pipes.
13 Broken main pipes renewed with new pipes.
84 feet 4 inch pipe.
48 feet 6 inch pipe.
12 feet 8 inch pipe.
12 feet 10 inch pipe.
7 4 inch sleeves.
4 6 inch sleeves.
1 8 inch sleeve.
1 10 inch sleeve.
1 18 inch pipe, cracked and banded.
1 18 inch band, boiler iron.
8 ¾ inch bolts.

Raising 6 inch pipe, crossing Melpomene Canal.

12 feet 6 inch pipe.
4 6 inch ¼ bends.
700 Pounds pig lead.
50 Pounds hemp packing yarn.
780 Pounds coal.
170 Yards paving.

Work Done and Materials Used in Street Service Repair—Continued.

17 Loads cinders.
43 Joints caulked.
26 Main stop cocks furnished with new screws.

Thompson & West Iron Screws.

3 3 inch iron screws.
4 6 inch iron screws.
1 8 inch iron screw.
4 10 inch iron screws.
3 16 inch iron screws.
3 18 inch iron screws.
1 8 inch Whittier or Boston iron screw.
1 8 inch Whittier or Boston brass screw.
1 6 inch Eddy or R. D. Woods iron screw.
2 8 inch Eddy or R. D. Woods iron screws.
3 10 inch Eddy or R. D. Woods iron screws.
50 ⅝ inch bolts and nuts.
75 Pounds ¾ inch iron washers.
52 Packing box bolts and nuts.
104 Joints caulked.
26 Packing renewed.
2 New wooden cases.
20 New wooden frames.
309 Leaking main stop cocks repaired.
618 Packing boxes, bolts and nuts.
2 New glands or packing box caps, unfinished.
618 Joints caulked.
109 Packings renewed.
3 Broken cast iron frames and covers renewed with new ones.
2 Broken Morgan frames and covers renewed with new ones.
20 Leaking fire well stop cocks repaired.
1 New gland or packing box cap finished.

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIR—Continued.

40 Packing box bolts and nuts.
40 Joints caulked.
20 Packings renewed.
1 New 8 inch Whittier or Boston valve on fire well one is broken.
6 feet 8 inch pipe.
1 1 inch sleeve.
40 Pounds pig lead.
4 Pounds hemp packing.
50 Pounds coal.
2 New sets screws for fire well keys.
2 Keys for fire wells repaired.
4 Joints caulked.
5 Leaking blow stop cocks repaired.
10 New packing box bolts and nuts.
10 Joints caulked.
5 Packings renewed.
Ditching and drilling main on Richard street at pumping station.
1 ⅝ inch ferrule.
1 ¾ inch ferrule.
6 Yards paving.
13 Ferrules drawn from main.
5 Service pipes cut.
4 Service pipes repaired.
1 Stop cock found.
1 Ferrule replaced back in main.
344 Leaking wooden cased fire hydrants repaired.
62 Wrought iron rods.
66 Wrought iron screws and clamps.
132 Wrought iron stirrups and nuts.
66 Wrought iron buttons.

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIR—Continued.

70 Wrought iron slats.
132 Wrought iron keys to fasten screw clamps.
16 Wrought iron hooks for top staves.
8 Wrought iron top bands for repairs to wooden cases.
10 Wrought iron middle bands for repairs to wooden cases.
5 Wrought iron bottom bands for repairs to wooden cases.
124 Cast iron valve flanges, small.
124 Cast iron valve flanges, large.
4 Cast iron valve covers, with hinges.
6 New brass nozzles.
50 Bent brass nozzles straightened and filed.
10 New cypress cases and covers, with hinges.
16 New cypress top staves.
5 New cypress bottom staves.
4 New cypress back staves.
3 Broken fire hydrants replaced with new ones.
62 New joints.
344 Joints caulked.
344 Packings renewed.
62 Gum valves.
27 Leaking Philadelphia fire hydrants repaired.
10 Wrought iron rods.
10 Wrought iron screws and clamps.
20 Wrought iron stirrups and nuts.
10 Wrought iron buttons.
10 Wrought iron slats.
20 Wrought iron keys to fasten screw clamps.
10 Cast iron valve flanges, small.
10 Cast iron valve flanges, large.
6 Cast iron cases and covers with hinges for Philadelphia fire hydrants.

Work Done and Materials Used in Street Service Repair—Continued.

2 Cast iron cases and covers with hooks for Philadelphia fire hydrants.
1 Cast iron cover with hinges for Philadelphia fire hydrant.
1 Cast iron cover with hooks for Philadelphia fire hydrant.
2 New brass nozzles.
10 Bent brass nozzles straightened and filed.
10 New joints.
27 Joints caulked.
27 Packings renewed.
60 Pounds pig lead.
10 Pounds hemp packing yarn.
150 Pounds coal.
10 New gum valves.
158 Leaking Holly fire hydrants repaired.
81 Wrought iron screws covered with brass.
81 Cast iron valves.
81 Cast iron valves with seats.
2 Cast iron jackets or outsides broken.
4 Cast iron top covers.
5 Cast iron glands for packing box sections.
120 New ¾ inch bolts.
18 New ⅝ inch bolts and nuts.
81 New gum valves.
81 New joints.
158 Joints caulked.
158 Packings renewed.
405 Pounds pig lead.
30 Pounds hemp packing yarn.
200 Pounds coal.
12 Leaking Mathew fire hydrants.
10 New ¾ inch bolts and nuts.
2 Cast iron top nuts.

WORK DONE AND MATERIALS USED IN STREET SERVICE REPAIR—Continued.

4 Brass hollow nuts.
12 New gum valves.
12 Joints caulked.
16 Packings renewed.
4 Leaking Boston fire hydrants repaired.
4 New gum valves.
5 New ¾ inch bolts.
6 Joints caulked on nozzles.

PACKING RENEWED.

28 Leaking underground fire hydrants repaired.
15 Copper rods.
3 Wrought iron rods.
18 Wrought iron screws without clamps.
1 Wrought iron screw with clamps.
36 Wrought iron stirrups and nuts.
18 Wrought iron buttons.
16 Wrought iron slants.
18 Cast iron valve flanges, small.
18 Cast iron valve flanges, large.
18 Brass nuts for screws.
6 Brass nozzles straightened and filed.
3 Frames and covers.
1 Boiler iron cover.
2 Cypress cases.
8 New joints.
28 Joints caulked.
28 Packings renewed.
18 New gum valves.
90 Pounds pig lead.
6 Pounds hemp packing yarn.
150 Pounds coal.

Work Done and Materials Used in Street Service Repair—Continued.

4071 Yards stone paving in all repairs.
1330 Yards flag paving in all repairs.
1259 Yards brick paving in all repairs.
9 Yards Schillinger paving in all repairs.
40 Loads river sand in all repairs.
610 Loads cinders in all repairs.
1145 Pounds lead used for all repairs.
100 Pounds hemp packing yarn used for all repairs.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS.

Thompson & West Iron Screws.

5 3 inch iron screws.
14 4 inch iron screws.
3 6 inch iron screws.
7 8 inch iron screws.
5 10 inch iron screws.
20 12 inch iron screws.
15 16 inch iron screws.
12 18 inch iron screws.

Whittier or Boston Iron Screws.

12 6 inch iron screws.
12 8 inch iron screws.
12 10 inch iron screws.
12 12 inch iron screws.
12 20 inch iron screws.

Chapman Iron Screws.

6 3 inch iron screws.
5 4 inch iron screws.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—Continued.

5 8 inch iron screws.
7 10 inch iron screws.

EDDY OR R. D. WOOD IRON SCREWS.

4 4 inch iron screws.
12 8 inch iron screws.

LUDLOW SCREWS.

12 6 inch iron screws.
10 8 inch iron screws.
2 6 inch brass screws.
2 8 inch brass screws.

BOSTON STOP COCK SCREWS.

2 6 inch iron screws.
1 8 inch iron screw.
9 6 inch brass screws.
11 8 inch brass screws.

UNFINISHED CAST IRON GLANDS FOR PACKING BOXES.

38 Unfinished cast iron glands, from 3 inch to 12 inch.
35 Unfinished cast iron glands, from 12 inch to 18 inch.
35 Finished cast iron glands, from 4 inch to 8 inch.
13 ¾ inch bolts and nuts.
18 Packing boxes, bolts and nuts.
40 Pounds ¾ inch mixed gum packing.
5 Pounds 5-16 inch patent packing for main stop cocks.
80 Pounds 7-16 inch patent packing for main stop cocks.
980 Pounds pig lead.
12 Pounds hemp packing yarn.
4 Wooden cased fire hydrants not in repair.
2 Wooden cased fire hydrants in repair.

Materials on Hand for Street Service Repairs—Continued.

4 Philadelphia fire hydrants not in repair.
1 Philadelphia fire hydrant in repair.
5 Underground fire hydrants not in repair.
1 Underground fire hydrant in repair.
20 Wrought iron rods for wooden cased fire hydrants.
47 Wrought iron rods for Philadelphia fire hydrants.
8 Wrought iron rods for underground fire hydrants.
6 Copper rods for underground fire hydrants.
7 Wrought iron screws without clamps for fire hydrants.
20 Wrought iron stirrups and nuts for fire hydrants, long.
6 Wrought iron stirrups and nuts for fire hydrants, short.
59 Wrought iron buttons for fire hydrant rods.
90 Wrought iron slats for fire hydrant rods.
130 Wrought iron keys for screw clamps for fire hydrants.
6 Wrought iron top bands for fire hydrant cases.
31 Wrought iron middle bands for fire hydrant cases.
72 Wrought iron bottom bands for fire hydrant cases.
85 Wrought iron hooks for fire hydrant cases.
200 Cast iron valve flanges for fire hydrants, small.
170 Cast iron valve flanges for fire hydrants, large.
4 Cast iron covers with hinges for wooden cased fire hydrants.
9 Cast iron covers with hinges for Philadelphia fire hydrants.
6 Cast iron covers with hooks for Philadelphia fire hydrants.
2 Cast iron cases for Philadelphia fire hydrants, small.
2 Cast iron cases for Philadelphia fire hydrants, large.
28 Brass nozzles for fire hydrants.
4 Brass nuts for underground fire hydrants.
170 Gum valves.

For Holly Fire Hydrants.

10 Wrought iron screws covered with brass.
7 Cast iron valves for single nozzles.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—

Continued.

2 Cast iron valves for double nozzles.
7 Cast iron valve seats for single nozzles.
2 Cast iron valve seats for double nozzles.
200 Cast iron ferrules to cover screws.
2 Cast iron glands for packing boxes.
3 Cast iron jackets or outside sections.
200 ½ inch bolts.
250 ⅝ inch bolts and nuts.
4 Gum valves for single nozzles.
6 Gum valves for double nozzles.

FOR MATHEW FIRE HYDRANTS.

49 Hollow brass nuts.
2 Cast iron top nuts.
49 Gum valves.

FOR BOSTON FIRE HYDRANTS.

12 ⅝ inch bolts.
2 Gum valves.
54 ½ inch Milwaukee ferrules.
58 ⅝ inch Milwaukee ferrules.
60 ¾ inch Milwaukee ferrules.

TOOLS IN THE WORK SHOP.

1 Bench vise.
2 Drill presses.
2 Bench hammers.
3 Caulking hammers.
2 Sledge hammers.

Materials on Hand for Street Service Repairs—Continued.

16 Caulking irons.
2 Gasquet irons.
5 Cutting chisels.
1 Chipping chisel.
7 Diamond points.
2 Flat files.
2 Ladles.
1 Pot and furnace.
2 3 inch patent Gasquet with iron clamp.
1 4 inch patent Gasquet with iron clamp.
2 6 inch patent Gasquet with iron clamp.
2 8 inch patent Gasquet with iron clamp.
1 10 inch patent Gasquet with iron clamp.
2 Monkey wrenches.
2 Pairs stocks and dies.
4 Wood axes.
6 Grub axes.
4 Asphalt axes.
1 Carpenter's hatchet.
1 Jack plane.
1 Smoothing plane.
1 Alligator saw.
1 Rip saw.
3 Cross-cut saws.
2 Lock saws.
1 Steel square.
3 Framing chisels.
16 Pick axes.
2 Spades.
4 Shovels.
4 Crowbars.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS—
Continued.

5 Paving rammers.
5 Danger lanterns.
3 Torch lanterns, all requiring repairs.
2 Patent drilling machines, with drills and taps and gum packing.
1 Old drilling machine with drills and reamers.
1 Pump.
2 Lengths suction hose.

CASH RECEIPTS FOR YEAR ENDING MARCH 31, 1893.

Cash on hand March 31, 1892		$ 72,973 67
Cash received from water rates April 1, 1892, to March 31, 1893, inclusive		196,422 68
Cash received for materials and fixtures sold	$ 599 02	
Cash received for street service repairs	1264 74	
Cash received for hydrant service	2 00	
Cash received from improvement and extension account for material sold and labor	1449 59	
Cash received for plumbers' license	15 00	
Cash for ashes sold	16 25	
Cash batture sand sold	28 60	
Cash for court costs, etc., from suit E. Conery, Jr., et als.	1158 50	
Cash received from Leeds & Co., for old engine sold	2079 14	
		6612 84
Cash received for second mortgage bonds		125,000 00
		$401,009 19

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1893.

Pumping Service:		
Wages, repairs, etc.		$ 12,631 38
Hydrant Service:		
Wages, etc.		9,451 06
Street Service Repairs:		
Wages, materials and repairs		8,592 12
Office Expenses:		
Wages, etc.		8,375 98
Improvements and Extensions:		
Wages, labor, and materials bought		18,075 25
Attorneys' fees and court costs		1,701 00
Materials and specials bought		1,327 56
Matured coupons paid		23,730 00
Coal purchased		15,872 54
State taxes, 1892, paid		7,500 05
City taxes, 1892, paid		20,200 00
State license, 1893, paid		250 00
Dividends		80,048 00
Water rates refunded:	First District $238 22 Second District 273 02	511 24
New Engines and Filter Plant Account:		
Amount expended to date		97,058 40
Stationery and printing		316 85
Telephones		236 75
Keep horse and buggy, and new buggy		425 60
Rent of office and shop		1,620 00
Meter account, balance of this account		138 38
Miscellaneous and petty expenses		249 75
Interest account, paid interest on bills payable		513 32
Cash in bank and petty cash		92,183 96
		$401,009 19

Coal consumed, $15,609.48.

GENERAL BALANCE MARCH 31, 1893.

ASSETS—		
Invested capital	$2,000,000 00	
Cash on hand	92,183 96	
Materials and fixtures on hand	7,887 11	
Coal on hand	1,763 74	
Improvements and extensions, amount invested in	455,894 82	
Cash deposited with New Orleans Gaslight Company	10 00	
Batture sand on hand	233 20	
New engines and filter plant account, amount expended to date	95,376 77	
Meter account, on hand	138 38	
Due by U. S. Customhouse	1,200 02	
Due by City of New Orleans	5,850 00	
		$2,660,538 00
LIABILITIES—		
Capital stock	$2,000,000 00	
First mortgage bonds issued	395,000 00	
Second mortgage bonds issued	125,000 00	
Dividends unpaid	855 00	
Coupons due and unpaid	135 00	
Profit and loss	139,548 00	
		$2,660,538 00
Bills for water rates in course of collection, not included in above assets		6,763 03

Robert L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being by me, notary, duly sworn, deposes and says that the foregoing is a true and correct transcript from the books of the company.

ATTEST:

R. E. CRAIGG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, this 6th day of April, A. D. 1893.

{SEAL.}

M. C. SONIAT,
Notary Public.

SIXTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks Co.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
M. J. HART,	"
G. W. NOTT,	"
HON. JOHN FITZPATRICK, MAYOR,	EX-OFFICIO.
HON. C. H. SCHENCK, CITY TREASURER,	"
HON. C. TAYLOR GAUCHE, COMMISSIONER PUBLIC BUILDINGS,	"

APRIL 1st, 1894.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD.—66073.
1894.

PRESIDENT'S REPORT.

NEW ORLEANS, APRIL 4, 1894.

To the Board of Directors of the New Orleans Waterworks Company:

Gentlemen—I submit herewith the annual statement of the Secretary and Treasurer, showing the receipts and disbursements made during the past twelve months and the present financial condition of the company. The "Improvements and Extensions Account" represents the outlay for the extension of mains ($474,156.15), against which the $395,000.00 first mortgage bonds have been sold. The excess expended in this way ($79,156.15) has been paid for from the current revenues of the company, as the work has been done from time to time.

The "Filter and New Engines Account" represents the outlay ($133,643.40) for the two new engines, suction pipe, buildings, and other expenditures in connection with the new engines and filter plant, against which account there are $125,000.00 (of the $250,000.00) second mortgage bonds outstanding; the excess ($8,643.40) having been paid from the revenues of the company thus far. Of this outlay about $11,500.00 has been expended in connection with the experiment with the filter plant, and the desire of the company to get clear water for its customers, the greater portion of this sum being for buildings and material that can be made useful for other purposes in the event the filter plant is not finally accepted by the Waterworks Company. The filter people had a trial of their plant during the spring and summer of last year, but failed to demonstrate that their filter plant had capacity to comply with the contract during high water stage of the river. They have since then made some changes in the filter beds and the manner of washing, and have asked for

another trial. The Board of Directors, being anxious to secure filtered water, if possible, on the 7th day of March last consented to give them a second trial of the filter plant, and a supplementary agreement entered into by the National Water Purifying Company and the New Orleans Waterworks Company, providing for a second test or trial of the filter plant, said test to commence the latter part of March, or early in April, and continue four months, unless rejected during the trial for non-compliance with the contract.

When the city sold the waterworks plant to the present company it was quite generally understood that among other privileges sold was the exclusive right of the New Orleans Waterworks Company to lay pipes to the river, the city to have the right to grant persons "contiguous to the river" permission to lay pipes for their own use. Of late years the City Council has granted this privilege to any one asking it, regardless of the question of "*contiguity.*" On February 8th last, this company, through its attorney, brought suit in the United States Circuit Court against the City of New Orleans, to prohibit the city from granting persons the right to lay pipes across public property in order to connect private property by pipes with the river, asking the court to place a final construction on Section No. 18 of its charter, in order that this question might be forever settled and the rights of the company be protected.

The report of the Superintendent gives the history of the work in his department for the year.

Respectfully,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, APRIL 1, 1894.

To the Board of Directors New Orleans Waterworks Co.:

Gentlemen—In my last annual report I noted the inauguration of a system for the delivery of a clear water supply to the city. Your President's report covers its subsequent history and present status.

The new engines have shown great economy and efficiency in the performance of their work, being new and of a modern type. They have been in use for about one year, and they have been stopped only a few times during this period for packing and repairs.

During such stoppages or necessary changes, the old or main engine has been used, or the Knowles pump has been called into requisition. To the cost of repairs or packing of your new pumps there has to be added, when you use your old machinery, an extra expense of something like fifty dollars a day.

I refer to my last annual report and subsequent reports to you on the subject of overhauling your "main engine," as a measure conducive to conservative management, safety and economy.

THE NEW BOILER PLANT,

with a down draft Hawley attachment, is now going into place, and will doubtless contribute largely to economical results in the management of the company's work. A new boiler plant of greater efficiency, and capable of increased steam pressure was absolutely needed.

There remains to be done, the erection of a suitable boiler

house or fire room, and the finishing of the interior of the new pumphouse, together with the overhauling of your main engine, before alluded to.

RECORD OF SERVICES.

The plats showing the location of mains, private services, main gates and private stop cocks are lamentably deficient, and not only deficient, but as regards private services, are very dilapidated in their condition. They all sadly need renewal, and I beg appropriate consideration of the matter at your hands.

ELECTROLYSIS.

Electrolytic action upon water and gas mains and service pipes is attracting attention in all cities where street cars are operated by electicity.

We have had but one case of damage so far, and which affected a lead service pipe at Napoleon and Laurel streets. The influence practically destroyed the pipe, which was of medium weight, and had been in the ground some seven months. The service is owned by J. H. Bell, and the plumber was Jos. Lowe.

The remedy and responsibility for this trouble is now engaging the attention and interest of water and gas companies and electricians all over the country.

With us, we have but to wait for the matter of a year or two to have the whole question dumped upon us, and it behooves this company to keep up with the procession in the matter of investigation of cause, effect and responsibility.

EXTENSIONS.

Since my last annual report there have been made the following extensions under your authority, and in accordance with the charter of the company :

In April, 1893—On Louisiana Avenue, from Baronne to St. Patrick street, 1030 feet of six-inch pipe, 1 six-inch main gate.

In April, 1893—On Dryades street, from Louisiana avenue to Delachaise street, 350 feet of four-inch pipe, 1 four-inch main gate.

In May, 1893—On Claiborne street (west side), from Esplanade avenue to Lapeyrouse street, 1421 feet of six-inch pipe, 2 six-inch main gates.

In May, 1893—On Dryades street, from Berlin street to Napoleon avenue, 336 feet of four-inch pipe, 1 four-inch main gate, 1 four-inch blow off.

In June, 1893—On Robertson street, from St. Ann to Orleans street, 254 feet of six-inch pipe.

In July, 1893—On Chestnut street, between St. Andrew street and Jackson avenue, 824 feet of six-inch pipe, 1 six-inch main gate.

In July, 1893—On Foucher street, on sidewalk, lower side of the street, and from St. Charles to Carondelet street, 411 feet of four-inch pipe, 1 four-inch main gate, 1 four-inch blow off.

In July, 1893—On Constantinople street, from Carondelet to Baronne street, 372 feet of three-inch pipe, 1 three-inch main gate.

In August, 1893—On Press street, from Chartres street nearly to St. Claude street, 1717 feet of six-inch pipe, 2 main gates.

In October, 1893—On Carondelet street, Felicity to First, and on First to St. Charles Avenue, 2111 feet of six-inch pipe on Carondelet street, 357 feet of six-inch pipe on First street, 3 six-inch main gates, 4 double nozzle fire hydrants.

In January, 1894—On Calhoun street, from St. Charles to Hurst, and on Hurst from Calhoun to State street, 1015 feet of six-inch pipe on Calhoun street, 1118 feet of six-inch pipe on Hurst street, 3 main six-inch gates, 2 fire hydrants.

In December, 1893—On Erato, Pilie and Calliope streets, 794 feet of six-inch pipe on Erato street, between Front street and the river; 600 feet of eight-inch pipe on Pilie street, from Erato to Calliope street; 573 feet of eight-inch pipe on

Calliope street, from Front to Pilie street; 1 eight-inch main gate, 1 fire hydrant.

In January, 1894—1 eight-inch main gate placed on Dryades street main, above intersection with Delord street.

In March, 1894—On Ursulines Avenue and Galvez street, 5098 feet of six-inch pipe, 16 feet of eight-inch pipe, 258 feet of four-inch pipe, 5 six-inch main gates, 11 double nozzle fire hydrants, 1 single nozzle fire hydrant.

In February, 1894—On Fourth, between St. Charles and Coliseum, 678 feet of six-inch pipe, 1 six-inch main gate.

TOTAL EXTENSIONS.

Three-inch pipe	372 feet.
Four-inch pipe	1355 feet.
Six-inch pipe	16,417 feet.
Eight-inch pipe	1189 feet.
Total	19,333 feet.

or, say, 3.66 miles, being approximately what you laid in the way of extensions last year.

Of these reported extensions, those on Carondelet, Calhoun, Hurst, Erato, Pilie, Calliope, Ursulines and Galvez streets, were laid by Manion & Co., under contract.

The extension on Fourth street was laid by Julius Loeffler, under contract.

The others, by this company.

While reporting on the extension of mains I beg to say that on 20th February a member of your Board requested that eminent hydraulic engineer, Mr. Rudolph Hering, to examine your distribution plat and to give his opinion as to whether a large reinforcing main, such as I have suggested, above Felicity street, was necessary.

He said the need was apparent and manifest.

I again submit the matter for your consideration.

Further, on the subject of extensions, I would say, that under City Ordinance 7807, there have been placed 43 double nozzle and 5 single nozzle fire hydrants.

In my last annual report I noted the serious fracture of the suction pipe to the main engine. It was temporarily repaired, but has since been placed in permanently good condition.

In July, 1893, under order of Commisioner of Public Works, a brick and cemented sidewalk was laid along the company's property line, on Orange, from Peters to First street, at a cost of some $400.00. I note that adjacent property has not been subjected to the same requisition.

In referring to the annexed

ENGINE RECORD

I may say that it shows 3,677,000,000 gallons of water pumped during the year ending March 31, 1893, against 3,133,000,000 gallons pumped during the year now closed, a difference of 544,000,000 gallons.

It is not to be inferred from these figures that the actual consumption has been materially less than during the preceding year. The chief cause for the decrease lies in the fact that the old machinery has been credited with more water than was actually pumped or rather delivered into the mains. You have had no means of estimating the pumpage except by the displacement of the pumps, and these, by reason of wear, tear and long service, became somewhat unreliable. The cost of coal, however, was just as great as if the pumpage had been accurate as recorded, or as was credited to the pumps.

SPEAKING OF COAL:

The amount consumed last year was 40,769 barrels. This past year the consumption has been 21,031 barrels, a difference of 19,738 barrels. This, at the low price of thirty cents per barrel of 180 pounds, shows a saving or economy to the extent of $5,921.40 during the past year.

Pumping service, or pump house expenses, which includes coal, engineers, stokers, oil, etc., exclusive of repairs and other incidentals, shows a decrease during the past year of $7,717.92.

The engine record for the past year, which is fairly accurate, shows that the total pumpage was 3,133,000,000 gallons. Of this quantity 54½ per cent. was delivered into the mains in day time, and 45½ per cent. during the night.

I have been long aware of this condition, and have studied much on the subject of where this excessive night supply goes, but have succeeded in tracing only a small portion of the manifest waste involved at night.

I am satisfied that no "house to house" inspection by night or by day, and no other espionage will fully cure this evil. The remedy lies in the meter system. When you achieve a clear water supply, your policy will be obviously gradually to meter all consumers.

This proposition is more manifestly correct when you remember that a supply communicating with the proposed sewers can not be inspected for the detection of waste.

PUBLIC AND PRIVATE SERVICE.

have been maintained up to and beyond the requirements of the charter and contract with the city. The mains of the company do not extend over the entire area of the city, parts of which are not properly protected against fire loss. Criticisms, unofficial in character, have been made regarding water supply, and, strange to say, these criticisms have borne for the most part upon fires which have occurred where the supply is most abundant. It is the duty of this company to maintain proper pressure in existing pipes or mains. It is not its duty to utilize this supply of presssure in putting out fires. The Waterworks Company has continued during the past year to discharge its entire duty under its contract and charter.

I append as part of my report a statement of the work done during the year by the Street Department, and an inventory of pipes and specials on hand for extensions and repairs.

There is filed in the office, as usual, the station engineer's inventory of tools and materials on hand and also inventory of tools on hand in shop.

Respectfully submitted,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, APRIL 1, 1893, TO MARCH 31, 1894.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds. Pumping	Banking	Total	Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate of Engine.	Gallons Oil	Pounds Cotton Waste	Total Gallons Pumped
1893													
April	163,458,335	76	1,391			41,392,901	653						
	114,037,526	50	916	77	2,384	28,820,393	691		7.	5 ft. 9 in	177	162	277,495,861
May	168,775,027	83	1,368			44,203,482	685						
	137,879,194	75	1,118	37	2,523	42,864,531	685		7.	3 ft. 8 in	185	158	306,654,221
June	163,623,542	83	1,233			50,996,617	737						
	142,098,777	75	1,074	13	2,320	45,981,782	1,074		7.	1 ft. 4 in	167	144	305,722,319
July	163,095,758	89	1,029			65,366,877	880						
	153,447,171	30	968	8	2,005	58,737,781	880		6.½	6 ft. 8 in	159	138	316,542,929
August	164,084,821	93	959			73,650,155	949						
	140,752,870	92	965	3	1,927	62,210,174	810		6.	14 ft. 0 in	161	127	304,837,691
September	140,818,231	79	759			67,978,403	1,031						
	119,907,593	75	761	13	1,533	54,746,131	874		6.	15 ft. 0in	152	124	260,725,824
October	137,425,365	77	847			57,908,012	902						
	122,179,555	70	828	6	1,681	47,839,336	819		6.	15 ft. 0 in	158	123	259,604,920
November	139,381,424	77	884			56,258,9 3	876						
	105,785,949	70	712	6	1,602	48,210,645	826		6.	15 ft. 4 in	144	112	245,167,373
December	128,032,370	80	631			75,196,476	1,127						
	100,085,139	70	560	...	1,191	57,965,975	992		6.	15 ft. 9 in	159	110	228,117,509
Jany. 1894	128,997,610	78	904			51 545,162	792						
	103,187,555	68	699	32	1,635	46,481,117	812		8.	14 ft. 2 in	125	119	232,185,165
February	97,571,787	73	530			62,202,780	1,022						
	85,839,179	63	480	10	1,020	52,140,602	993		9.	9 ft. 0 in	105	99	183,410,966
March	117,818,572	73	662			60,202,691	988						
	95,041,593	63	541	7	1,210	51,276,201	975		7.½	5 ft. 3 in	128	121	212,860,165
Totals	3,133,324,943		20,819	212	21,031						1820	1537	3,133,324,943

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	756	
Holly	221	
Underground	122	
Mathew	59	
Iron case	36	
Boston	5	
		1199
Fire wells		51
Blow-offs		25
		1275
Main stop cocks or gates		718

DISTRIBUTION—CAST IRON PIPES.

3 inch.....	39,545 ft.	10 inch.....	27,984 ft.	20 inch.....	2,300 ft.
4 inch.....	81,525 ft.	12 inch	8,375 ft.	24 inch.....	2,400 ft.
6 inch.....	123,809 ft.	16 inch.....	21,175 ft.	30 inch.....	16,100 ft.
8 inch.....	112,588 ft.	18 inch.....	16,400 ft.	36 inch.....	3,600 ft.

Or say, 86¼ miles.

Mean Temperature and Rain Fall in New Orleans for past Ten Years.

	MEAN TEMPERATURE.											RAIN FALL.										
	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.		1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Jan...	47	52	39	51	56	51	65	53	49	50	58	Jan..	4.35	9.70	7.53	4.26	3.29	6.51	.06	3.75	5.87	2.50	1.76
Feb ..	61	53	42	65	59	52	64	62	61	61	55	Feb ..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.12	0.01	4.92	11.06
Mar..	65	58	58	62	60	58	62	61	59	61	63	Mar..	8 24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3.49	5.94
Apr ..	68	70	65	68	70	70	70	68	69	72	...	Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	3.70	.....
May ..	76	74	72	75	73	74	74	74	74	76	...	May..	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	2.62	2.66	.....
June ..	79	82	79	78	7	78	80	81	79	80	...	June	8 60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	5.30	.....
July..	85	83	80	80	81	83	81	81	80	83	...	July..	4.12	6.15	4.55	7.85	2.04	9.13	6.59	4.57	7.46	3 72	.....
Aug..	82	75	81	81	75	81	80	81	82	82	...	Aug..	8.7	4.25	2.40	7.42	22.74	5.59	3.62	1.69	6 96	4.56	.....
Sept .	81	72	78	77	75	79	77	78	77	80	...	Sept .	3. 12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	6.33	1.38	.....
Oct....	74	66	69	69	68	70	69	68	71	69	...	Oct ...	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	2.14	4.24	.....
Nov..	60	51	59	61	62	59	64	60	62	60	...	Nov .	3.13	3 47	5.33	.52	1.50	2.18	0.42	3.31	3.55	6.24	.....
Dec...	59	46	51	53	51	64	56	56	56	58	..	Dec...	8 01	4.38	2.57	7.56	3.68	.67	2.58	3.93	3.22	2.31	.....

EXTENSIONS MADE BY CONTRACT, CONTRACTORS FURNISHING BOTH LABOR AND MATERIALS.

252	feet 4 inch pipe.
7909	feet 6 inch pipe.
16	feet 8 inch pipe.
1	4 x 3 inch three way branch.
14	6 x 4 inch three way branches.
1	6 x 6 inch three way branch.
1	8 x 6 inch three way branch.
2	6 x 3 inch four way branches.
2	6 x 4 inch four way branches.
2	6 x 6 inch four way branches.
2	8 x 6 inch four way branches.
1	6 x 4 inch reducing pipe.
8	6 inch ⅛ bends.
9	6 inch Chapman valves.
1	6 inch cypress plug for ends of pipes.
2	8 inch cast iron plugs for ends of pipes.
8	Morgan frames and covers.
1	Cast iron frame and cover.
1	Wooden case.
1	Single nozzle Holly fire hydrant.
13	Double nozzle Holly fire hydrants.
1000	feet 4 x 4 inch scantling.
1500	feet 1 x 12 inch cypress board.
70	feet 12 x 12 inch lumber.
16	Yards asphalt pavement.

Above used on Calhoun and Hurst streets, Fourth street, Ursulines Avenue, and Galvez street.

MATERIALS USED AND WORK DONE IN STREET SERVICE.

503 Leaking wooden cased fire hydrants repaired.
102 Wrought iron rods.
102 Wrought iron screws and clamps.
204 Wrought iron stirrups and nuts.
102 Wrought iron buttons.
204 Wrought iron slats.
204 Wrought iron keys to fasten screw clamp.
6 Wrought iron top bands for repairs to cases.
8 Wrought iron middle bands for repairs to cases.
10 Wrought iron bottom bands for repairs to cases.
106 Wrought iron hooks for top staves for repairs to cases.
102 Cast iron valve flanges, small.
102 Cast iron valve flanges, large.
6 Cast iron covers, with hinges, for repairs to cases.
29 New brass nozzles for broken ones.
47 Bent nozzles filed and straightened.
51 New cypress cases and covers, with hinges.
106 New cypress top staves, repairs to cases.
4 New cypress side staves, repairs to cases.
6 New cypress bottom staves, repairs to cases.
6 New cypress back staves, repairs to cases.
102 Gum valves.
102 New joints.
503 Joints caulked.
503 Packings renewed.
510 Pounds pig lead.
50 Pounds hemp packing.
500 Pounds coal.
2 Drillings for old ferrules.
12 Yards Schillinger pavement.
1 Wooden cased fire hydrant to replace underground fire hydrant.

MATERIALS USED AND WORK DONE IN STREET SERVICE—Continued.

31 Leaking Philadelphia fire hydrants repaired.
12 Wrought iron rods.
12 Wrought iron screws and clamps.
24 Wrought iron stirrups and nuts.
12 Wrought iron buttons.
24 Wrought iron slats.
24 Wrought iron keys to fasten screw clamps.
12 Cast iron valve flanges, small.
12 Cast iron valve flanges, large.
9 Cast iron cases and covers, with hinges.
3 Cast iron cases and covers, with hooks.
5 Cast iron covers, with hinges.
4 New brass nozzles replaced for broken nozzles.
4 New brass packing boxes replaced for bad ones.
5 Bent nozzles filed and straightened.
12 New joints.
31 Joints caulked.
31 Packings removed.
12 New gum valves.
75 Pounds pig lead.
15 Pounds hemp packing yarn.
150 Pounds coal.
1 Philadelphia fire hydrant to replace underground fire hydrant.
42 Leaks on underground fire hydrants repaired.
14 Copper rods.
9 Wrought iron rods.
1 Wrought iron screw without clamp.
22 Wrought iron screws with clamps.
46 Wrought iron stirrups and nuts.
23 Wrought iron buttons.
46 Wrought iron slats.

MATERIALS USED AND WORK DONE IN STREET SERVICE—Continued.

23 Cast iron valve flanges, small.
23 Cast iron valve flanges, large.
6 Brass nozzles replaced for broken nozzles.
4 Bent nozzles filed and straightened.
23 Brass nuts for screws.
5 Cast iron frames and covers.
6 Boiler iron covers.
7 Cypress cases.
23 Gum valves.
23 New joints.
42 Joints caulked.
42 Packings renewed.
90 Pounds pig lead.
15 Pounds hemp packing yarn.
100 Pounds coal.
1 Underground fire hydrant removed and replaced by wooden-cased fire hydrant.
1 Underground fire hydrant removed and replaced by Philadelphia fire hydrant.
12 Feet 3 inch pipe.
2 3 inch ¼ bends.
50 Pounds pig lead.
5 Pounds hemp packing yarn.
60 Pounds coal.
170 Leaking Holly fire hydrants repaired.
118 Wrought iron screws covered with brass.
118 Cast iron valves.
118 Cast iron valve seats.
7 Cast iron frost jackets.
3 Cast iron O. G. top sections, with nozzles connected.
9 Cast iron top covers.
4 Cast iron glands or packing box caps.

MATERIALS USED AND WORK DONE IN STREET SERVICE—Continued.

6	Cast iron ferrules to cover screws.
2	New brass nozzles to replace broken nozzles.
12	Brass nozzles filed and straightened.
170	Joints caulked.
170	Packings renewed.
118	New gum valves.
3	Holly fire hydrants raised where too low.
6	4 inch ⅛ bends.
50	Pounds pig lead.
6	Pounds hemp packing yarn.
75	Pounds coal.
2	Holly fire hydrants to replace broken Mathew fire hydrants.
1	Holly fire hydrant to replace wooden-cased fire hydrant.
29	Leaks on Mathew fire hydrants repaired.
14	Brass hollow nuts for screws.
6	Brass nozzles filed and straightened.
5	New brass nozzles.
5	Cast iron top nuts.
15	½ inch bolts and nuts.
22	Gum valves.
29	Joints caulked.
29	Packings renewed.
2	Mathew fire hydrants broken.
2	Leaking Boston fire hydrants repaired.
2	New gum valves.
386	Leaks on main stop cocks repaired.
772	New packing box bolts and nuts.
4	New cast iron glands or packing box caps, finished.
6	New cast iron frames and covers.
4	New wooden cases.
6	New wooden frames.

MATERIALS USED AND WORK DONE IN STREET SERVICE—Continued.

772 Joints caulked.
386 Packings renewed.
30 Leaks on fire well stop cocks repaired.
60 New packing box bolts and nuts.
3 New cast iron glands or packing box caps, finished.
60 Joints caulked.
30 Packings renewed.
20 Leaks on blow-off stop cocks.
40 New packing box bolts and nuts.
40 Joints caulked.
20 Packings renewed.
29 Furnishing main stop cocks with new screws.
1 New 4 inch Thompson & West iron screw.
7 New 6 inch Thompson & West iron screws.
12 New 8 inch Thompson & West iron screws.
9 New 10 inch Thompson & West iron screws.
145 New $\frac{3}{4}$ inch bolts and nuts.
2 New cast iron frames and covers.
7 New wooden cases.
8 New wooden frames.
116 Joints caulked.
29 Packings renewed.
75 Pounds $\frac{3}{4}$ washers.
6 Fire well stop cocks furnished with new screws.
3 New 6 inch Boston iron screws.
3 New 8 inch Boston iron screws.
30 New $\frac{3}{4}$ inch bolts and nuts.
21 Joints caulked.
6 Packings renewed.

COVERED OVER BY LABORERS OF RAILROAD AND NEW STREET PAVING, MAIN STOP COCK, FIRE WELL AND BLOW-OFFS.

75	To find and raise to level of streets.
136	New wooden frames.
2	New wooden cases.
9	New outside sections for Morgan frames and covers.
5	Broken main stop cocks replaced with new.
3	New 6 inch Chapman valves.
2	New 8 inch Chapman valves.
18	feet 6 inch pipe.
12	feet 8 inch pipe.
3	6 inch sleeves.
2	8 inch sleeves.
2	Cast iron frames and covers.
1	Morgan frame and cover.
2	Wooden cases.
4	Wooden frames.
250	Pounds pig lead.
20	Pounds hemp packing yarn.
300	Pounds coal.

EXTENDING 4 INCH PIPE IN YARD PUMPING STATION.

33	feet 4 inch pipe.
2	4 inch ½ bends.
1	4 inch saddle.
8	⅝ inch machine bolts and nuts.
1	4 inch Chapman valve.
4	Pounds pure gum.
1	Morgan frame and cover.
85	Pounds pig lead.
10	Pounds hemp packing yarn.
75	Pounds coal.
2	Leaks on 30 inch pipe in the basins.

Extending 4 Inch Pipe in Yard Pumping Station—Continued.

1	30 inch wrought iron band around the pipe.
18	Leaks on 30 inch main pipes.
330	Leaks on 3 inch to 20 inch pipes.
11	Broken main pipes replaced with new pipes.
20	Feet 3 inch pipe.
12	Feet 4 inch pipe.
24	Feet 6 inch pipe.
36	Feet 8 inch pipe.
36	Feet 10 inch pipe.
6	Feet 16 inch pipe.
1	4 x 3 inch reducing pipe.
1	3 inch sleeve.
2	4 inch sleeves.
2	6 inch sleeves.
3	8 inch sleeves.
3	10 inch sleeves.
1	16 inch sleeve.
2	Holes drilled in new pipes for old services.
300	Pounds pig lead.
30	Pounds hemp packing yarn.
500	Pounds coal.
35	Feet 12 x 4 inch lumber, running feet.

Paving for all Repairs Made.

4787	Yards stone pavement.
1375	Yards flagging.
1359	Yards bricking.
36	Loads of river sand.
1504	Loads of cinders.
5	Barrels cement.
35	Yards asphalt pavement.

MATERIALS FURNISHED BY THE COMPANY IN MAKING EXTENSION OF MAINS.

1	3 x 3 inch three way branch.
4	4 x 4 inch three way branches.
3	6 x 4 inch three way branches.
2	6 x 6 inch three way branches.
19	8 x 4 inch three way branches.
2	8 x 6 inch three way branches.
1	4 x 4 inch four way branch.
3	6 x 4 inch four way branches.
5	6 x 6 inch four way branches.
2	8 x 4 inch four way branches.
2	8 x 6 inch four way branches.
1	8 x 8 inch four way branch.
1	6 x 4 inch reducing pipe.
1	3 inch sleeve.
10	4 inch sleeves.
14	6 inch sleeves.
24	8 inch sleeves.
2	6 inch saddles.
1	8 inch saddle.
1	4 inch ¼ bend.
3	3 inch ⅛ bends.
11	4 inch ⅛ bends.
2	8 inch ⅛ bends.
1	3 inch Chapman valve.
8	4 inch Chapman valves.
10	6 inch Chapman valves.
2	8 inch Chapman valves.
396	Feet 3 inch pipe.
2160	Feet 4 inch pipe.
8751	Feet 6 inch pipe.
1163	Feet 8 inch pipe.
9	6 inch cypress plugs for ends of pipes.

Materials Furnished by the Company in Making Extensions of Mains—Continued.

3 8 inch cypress plugs for ends of pipes.
4 8 inch cast iron plugs for ends of pipes.
16 Morgan frames and covers.
5 Cast iron frames for main stop cock.
10 Wooden frames for main stop cock.
5 Wooden cases for main stop cock.
3 Single nozzle Holly fire hydrants.
31 Double nozzle Holly fire hydrants.
15 Pounds pure gum packing.
10243 Pounds pig lead.
560 Pounds hemp packing yarn.
2560 Pounds coal.
10 Pounds 7 inch spikes.
30 Pounds machine bolts and nuts.
10 Gallons insurance oil.
1782 Feet 4 x 4 inch scantling.
800 Feet 1 x 12 inch cypress boards.
400 Feet 12 x 12 inch timber.
57¼ Yards asphalt pavement.
3 Yards Schillinger pavement.
30 Yards stone pavement.

Ditching and Drilling Main Pipe for Plumbers.

23 ¾ inch ferrules.
87 ⅝ inch ferrules.
45 ¾ inch ferrules.
130 Holes drilled.
23 Ditches dug.
8 Main stop cocks closed for repairs to service pipes.
16 Ditches dug for repairs to service pipes.
1 3 x 3 inch three way branch, furnished by the company.
2 3 inch sleeves, furnished by the company.

DITCHING AND DRILLING MAIN PIPE FOR PLUMBERS—Continued.

1 3 inch saddle, furnished by the company.
1 3 inch ⅛ bend.
5 Pounds pure gum packing.
39 Pounds pig lead.
6 Pounds hemp packing.
8 ⅝ inch machine bolts and nuts.

EXTENSIONS FOR PRIVATE PERSONS.

1 4 x 4 inch three way branch.
1 6 x 4 inch three way branch.
1 4 inch Chapman valve.
1 3 inch Chapman valve.
72 feet 4 inch pipe.
2 3 inch sleeves.
1 3 inch Thompson & West iron screw.
3 4 inch Thompson & West iron screws.
1 Morgan frame and cover.
84 Pounds of pig lead.
15 Pounds hemp packing yarn.
75 Pounds coal.
5 Connecting branches to main pipe, for contractors.
2 Connecting saddles to main pipe, for contractors.
10 Pounds pure gum packing.
Drilling for both these saddles.
16 ⅝ inch machine bolts and nuts.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

38 pieces 3 inch pipe, 12 feet long.
12 pieces 4 inch pipe, 12 feet long.
158 pieces 6 inch pipe, 12 feet long.
129 pieces 8 inch pipe, 12 feet long.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

47 pieces 10 inch pipe, 12 feet long.
4 pieces 12 inch pipe, 12 feet long.
7 pieces 16 inch pipe, 12 feet long.
5 pieces 18 inch pipe, 12 feet long.
1 piece 24 inch pipe, 12 feet long.
28 pieces 30 inch pipe, 12 feet long.
13 pieces 36 inch pipe, 12 feet long.
1 piece 48 inch pipe, 12 feet long.
1 Flange pipe, 10 inch, 12 feet long.
2 pieces pipe, cracked, 24 inch, 12 feet long.
10 pieces pipe, various sizes, from 6 to 36 inches.

THREE WAY BRANCHES.

12 pieces 3 x 3, 2 bells.
16 pieces 4 x 3, 2 bells.
3 pieces 4 x 4, 2 bells.
13 pieces 6 x 3, 2 bells.
16 pieces 6 x 4, 2 bells.
12 pieces 8 x 3, 2 bells.
7 pieces 8 x 4, 2 bells.
20 pieces 6 x 6, 2 bells.
10 pieces 8 x 6, 2 bells.
16 pieces 8 x 8, 2 bells.
3 pieces 10 x 3, 2 bells.
4 pieces 10 x 4, 2 bells.
2 pieces 10 x 8, 2 bells.
3 pieces 10 x 12, 2 bells.
6 pieces 12 x 6, 3 bells.
1 piece 8 x 6, 3 bells.
5 pieces 10 x 6, 3 bells.
1 piece 16 x 8, 3 bells.
2 pieces 36 x 8, 1 bell.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

5 pieces 30 x 12, all bells.
2 pieces 12 x 8, all bells.
2 pieces 2 x 3, all bells.

FOUR WAY BRANCHES.

8 pieces 10 x 3, 3 bells.
3 pieces 10 x 4, 3 bells.
8 pieces 10 x 6, 3 bells.
4 pieces 6 x 6, 4 bells.
1 piece 8 x 6, 4 bells.
1 piece 8 x 8, 4 bells.
6 pieces 8 x 8, 3 bells.
3 pieces 10 x 8, 3 bells.
5 pieces 16 x 6, 3 bells.
5 pieces 16 x 8, 3 bells.
3 pieces 12 x 16, 3 bells.
2 pieces 12 x 8, 3 bells.
1 piece 16 x 12, 3 bells.
1 piece 20 x 8, 3 bells,
1 piece 20 x 10, 3 bells.
1 piece 30 x 8, 3 bells.
10 pieces 8 x 3, 3 bells.
8 pieces 8 x 4, 3 bells.
10 pieces 4 x 4, 4 bells.

BENDS.

14 3 inch quarter bends.
14 4 inch quarter bends.
25 6 inch quarter bends.
28 8 inch quarter bends.
3 10 inch quarter bends.
9 3 inch eighth bends.
19 4 inch eighth bends.
17 6 inch eighth bends.
19 8 inch eighth bends.
2 30 inch eighth bends.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont.

REDUCERS.

5 3 x 4 reducers.
17 4 x 6 reducers.
1 6 x 4 reducer.
7 8 x 3 reducers.
2 12 x 6 reducers.
1 12 x 8 reducer.
2 6 x 8 reducers.
6 6 x 8 reducers, no bell.
3 4 x 8 reducers.
1 20 x 12 reducer.
1 12 x 10 reducer.
1 16 x 12 reducer.

SLEEVES.

21 3 inch sleeves.
34 4 inch sleeves.
15 6 inch sleeves.
15 8 inch sleeves.
3 20 inch sleeves.
8 12 inch sleeves.
2 10 inch sleeves.
2 16 inch sleeves.
3 18 inch sleeves.
1 30 inch sleeve.
2 36 inch sleeves.

VALVES.

12 3 inch Chapman valves.
5 4 inch Chapman valves.
4 6 inch Chapman valves.
14 8 inch Chapman valves.
4 10 inch Chapman valves.
2 6 inch Galvin valves.
1 4 inch Galvin valve.
1 8 inch Eddy valve.
1 3 inch Ludlow valve.
1 8 inch Renssalaer valve.
13 Wooden case plugs.
3 8 inch caps.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Cont.

1 18 inch cap.
1 30 inch cap.
39 Morgan frames and covers.
1 10 inch R. D. wood valve.
1 20 inch valve.
1 36 inch second hand valve.
8 Stop cock frames.
1 Stop cock frame cover.
3 Underground plugs.
6 Goosenecks.
2 Ys, 12 x 10.
1 Lot old iron.
2 Pumps and fixtures.
1 Furnace.
372½ Pigs of lead.
12 4 inch wooden plugs.
6 10 inch wooden plugs.
9 12 inch wooden plugs.
23 3 inch wooden plugs.
16 Single nozzle Holly fire plugs.
12 Double nozzle Holly fire plugs.
59 Jackets.
61 Rods.
24 Holly plug covers.
1 Box Holly plug glands.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE REPAIRS.

EDDY OR R. D. WOOD IRON STOP COCKS FOR MAIN GATES.

25 6 inch iron screws for main stop cocks.
23 8 inch iron screws for main stop cocks.
5 10 inch iron screws for main stop cocks.
3 12 inch iron screws for main stop cocks.

CHAPMAN IRON SCREWS FOR MAIN STOP COCKS.

16 3 inch iron screws for main stop cocks.
16 4 inch iron screws for main stop cocks.
17 6 inch iron screws for main stop cocks.
16 8 inch iron screws for main stop cocks.

Materials on Hand in Work Shop for Street Service Repairs—Continued.

Ludlow Screws for Main Stop Cocks.

7 6 inch iron screws for main stop cocks.
15 8 inch iron screws for main stop cocks.
1 6 inch brass screw for main stop cock.
2 8 inch brass screws for main stop cocks.

Whittier or Boston Screws for Main Stop Cocks.

12 6 inch iron screws for main stop cocks.
12 8 inch iron screws for main stop cocks.
12 10 inch iron screws for main stop cocks.
12 12 inch iron screws for main stop cocks.
12 20 inch iron screws for main stop cocks.
9 6 inch brass screws for main stop cocks.
12 8 inch brass screws for main stop cocks.

Thompson & West Iron Screws for Main Stop Cocks.

14 3 inch iron screws for main stop cocks.
13 4 inch iron screws for main stop cocks.
8 6 inch iron screws for main stop cocks.
7 8 inch iron screws for main stop cocks.
7 10 inch iron screws for main stop cocks.
20 12 inch iron screws for main stop cocks.
15 16 inch iron screws for main stop cocks.
12 18 inch iron screws for main stop cocks.
56 ⅝ inch bolts and nuts.
46 Packing box bolts and nuts.
120 ½ inch packing box bolts from 3 to 8 inch.
33 Unfinished cast iron gland frames, 3 to 12 inch, for main stop cocks.
35 Unfinished cast iron gland frames, 16 to 18 inch, for main stop cocks.
32 Finished cast iron gland frames, 4 to 8 inch, for main stop cocks.
8 Cast iron frames and covers for main stop cocks.
3 Wooden cases for main stop cocks.
14 Wooden frames for main stop cocks.
99 Pounds tarred hemp packing yarn.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE REPAIRS—Continued.

46 Pounds white lead.
9 Pounds ⅛ inch mixed gum packing.
860 Pounds pig lead.
2 Cypress plugs for ends of main pipes.
2 2 to 4 inch tapering plugs.
2 4 to 7 inch tapering plugs.
2 5 to 10 inch tapering plugs.
2 6 to 12 inch tapering plugs.
2 4 inch straight plugs for ends of main pipes.
32 ½ inch ferrules.
53 ⅝ inch ferrules.
59 ¾ inch ferrules.
2 Wooden cased fire hydrants in good repair.
4 Wooden cased fire hydrants not in repair.
3 Philadelphia iron cased fire hydrants in good repair.
1 Philadelphia iron cased fire hydrant not in repair.
7 Underground fire hydrants in good repair.
3 Underground fire hydrants not in repair.
4 Iron covers for wooden cased plugs, in good repair.
3 Iron covers for wooden cased plugs, not in repair.
3 Philadelphia iron cased covers for fire hydrants in good repair.
1 Philadelphia iron cased cover for fire hydrants not in repair.
1 Philadelphia iron cased cover for fire hydrants, with hook, not in repair.
7 Philadelphia iron cased covers for fire hydrants, with hook, in good repair.
1 Philadelphia iron cased cover for fire hydrants, with hinges, not in repair.
2 Philadelphia iron cased covers for fire hydrants, with hinges, in good repair.
6 Underground fire hydrant frames and covers in good repair.
40 Wrought iron hooks for wooden cased fire hydrants in good repair.
20 Wrought iron rods for wooden cased fire hydrants.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE REPAIRS—Continued.

36 Wrought iron rods for Philadelphia fire hydrants.
13 Wrought iron rods for underground fire hydrants.
14 Copper rods for underground fire hydrants.
489 Wrought iron buttons.
246 Wrought iron slats.
16 Wrought iron keys to fasten clamp screws.
11 Wrought iron screws without clamp.
2 Wrought iron top bands for wooden cased fire hydrant cases.
25 Wrought iron centre bands for wooden cased fire hydrant cases.
36 Wrought iron bottom bands for wooden cased fire hydrant cases.
299 Cast iron valve flanges, small.
143 Cast iron valve flanges, large.
96 Gum valves.
1 3 inch goose neck.
3 Cypress cases for fire hydrants.
7 Cypress top staves and hooks.
154 New staves for fire hydrant cases.
3 Brass nozzles.
49 Wrought iron screws covered with brass.
15 Cast iron valve seats for single nozzles.
2 Cast iron valve seats for double nozzles.
3 Cast iron top covers.
1 Cast iron gland for packing box.
1 Cast iron frost jacket.
2 Cast iron O. G. top sections with nozzles.
20 Brass nozzles.
180 ½ inch bolts.
156 ⅝ inch bolts and nuts.
40 Gum valves for Holly fire hydrants.

FOR MATHEW FIRE HYDRANTS.

41 Brass hollow nuts.
2 Cast iron top nuts.
6 ⅝ inch bolts.
10 Gum valves.

CASH RECEIPTS FOR YEAR ENDING MARCH 31, 1894.

Cash on hand March 31, 1893		$ 92,183 96
Cash received from water rates from April 1, 1893, to March 31, 1894		209,216 85
Cash received for material and fixtures sold	$ 1,037 04	
Cash received for street service repairs.	833 65	
Cash received for hydrant service	6 00	
Cash received for improvements and extensions, for materials sold and labor	1,506 98	
Cash received for plumbers' licenses	52 40	
Cash received for ashes sold, etc	60 05	
Cash received for sand sold	20 70	
Cash received for interest on bills receivable	27 02	
		3,543 84
		$304,944 65

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1894.

Pumping Service:		
Wages, labor, repairs, etc		$14,033 79
Hydrant Service:		
Wages, etc		10,345 08
Street Service Repairs:		
Wages, material and repairs		8,383 30
Office Expenses:		
Salaries, wages, etc		8,034 78
Improvements and Extensions:		
Wages, labor, materials bought, etc		18,670 25
Materials and specials bought		3,547 26
Matured coupons paid... First mortgage	$23,640 00	
Matured coupons paid... Second mortgage	6,250 00	29,890 00
Coal purchased		6,506 86
State taxes, 1893, paid		7,701 40
City taxes, 1893, paid		22,004 00
State license, 1894, paid		250 00
Dividends paid		99,773 50
Water rates refunded.... First District	518 16	
Water rates refunded.... Second District	236 00	754 16
New boilers, expended to date		3,815 14
New engines and filter plant, expended this year		38,266 63
Attorney's fees and court costs		1,133 00
Stationery, printing and advertising		686 95
Telephones		236 00
Miscellaneous and petty expenses		84 20
Keep of horse and buggy		346 25
Rent of office and shops		1,620 00
Cash in bank and petty cash		28,862 10
		$304,944 65

GENERAL BALANCE MARCH 31, 1894.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	28,862 10	
Materials and fixtures on hand	10,131 41	
Coal on hand	1,815 90	
Cash deposited in New Orleans Gas Light Company	10 00	
Improvements and extensions, amount invested in	474,156 15	
New engines and filter plant account	133,643 40	
New boilers account	3,815 14	
Fourth street extension, not completed	6 80	
Due by U. S. Customhouse	1,600 02	
Due by City of New Orleans	5,880 00	
		$2,659,920 92

LIABILITIES—

Capital stock	$2,000,000 00	
First mortgage bonds issued	395,000 00	
Second mortgage bonds issued	125,000 00	
Dividends unpaid	1,081 50	
Coupons due and unpaid	195 00	
Profit and loss	138,644 42	
		$2,659,920 92
Bills for water rates in course of collection, not included in above assets		6,719 94

R. L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being by me, notary, duly sworn, deposes and says that the foregoing is a true and correct transcript from the books of the company.

ATTEST:

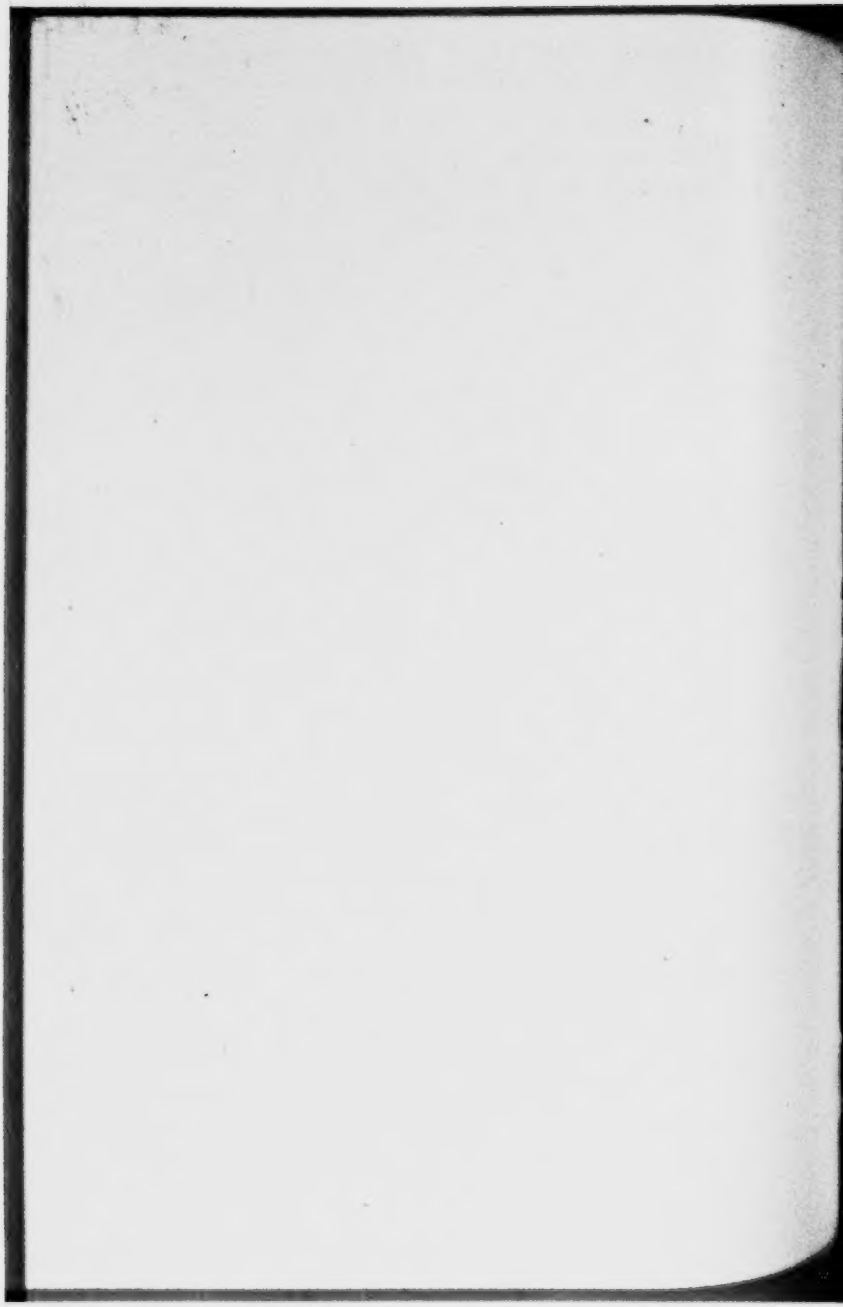
R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, notary, this 4th day of April, 1894.

SEAL.

CHAS. T. SONIAT,
Notary Public.



4186

SEVENTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks Co.

OFFICERS.

R. E. CRAIG, ... PRESIDENT.
A. BALDWIN, ... VICE-PRESIDENT.
L. H. GARDNER, ... SUPERINTENDENT.
R. L. MACMURDO, ... SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG, ... BY STOCKHOLDERS.
A. BALDWIN, ... "
M. J. HART, ... "
G. W. NOTT, ... "
HON. JOHN FITZPATRICK, MAYOR, ... EX-OFFICIO.
HON. C. H. SCHENCK, CITY TREASURER, ... "
HON. C. TAYLOR GAUCHE, COMMISSIONER PUBLIC BUILDINGS, "

APRIL 1st, 1895.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD.—6906?
1895.

PRESIDENT'S REPORT.

NEW ORLEANS, LA., April 3, 1895.

To the Board of Directors of the New Orleans Waterworks Company:

Gentlemen—Since my last annual report, April 4th, 1894, there has been a second trial of the filter plant, and the result (like the first trial) has proven the incapacity of the plant to comply with the contract, and the filter plant has been rejected. The filter people, however, have entered suit against this Company to compel it to receive and pay for the plant. Under these circumstances I consider it important to review carefully, for your information and that of the stockholders, the circumstances connected with the filter plant, and the issue of the $250,000 second mortgage bonds. The Waterworks Company made application to the city for consent to issue said bonds; and the purpose for which the money was borrowed, and the bonds and mortgage executed, is very specifically declared in the resolution authorizing same, adopted by the Board of Directors of the New Orleans Waterworks Company on January 6th, 1892, as follows:

"For the purpose of enabling it to enlarge, improve, repair or reconstruct its machinery, enlarge and improve its works and increase its capacity to supply water, and for the purpose of attempting to deliver filtered water, etc." This resolution was embodied in the application to the City Council, and the consent of the City Council was formally and duly given by Ordinance No. 6104, C. S., approved March 4th, 1892. Under authority of this Ordinance, and in pursuance of the power vested in the charter of our Company, a mortgage was executed on the 22d day of December, 1892. The mortgage is by notarial act, passed before Joseph D. Taylor, Notary Public. At the time of the execution of this second mortgage the Company held (of the $500,000 in bonds, secured by the first mortgage executed in

1879), $105,000 in bonds that had never been issued, or put upon the market. Although the first mortgage bonds in possession of the Company were authorized to create a fund for the purpose of extending the works and improving the water distribution in the city, it was deemed advisable to cancel the $105,000 of the first mortgage bonds; and in the act of the second mortgage of December 22d, 1892, the $105,000 of the first mortgage bonds were surrendered and cancelled by the Mayor of the City, Honorable Joseph A. Shakspeare, and the President of the Company, before Notary Public Joseph D. Taylor, leaving the bond issue secured by the first mortgage only $395,000. The $250,000 bonds secured under this second mortgage were sold to Messrs. Moore, Hyams & Co., at par and accrued interest, deliverable at the pleasure of the Company.

The Company, after an examination of the various filter plants installed in other cities, and consultation with experts, determined to accept the proposition of the National Water Purifying Company of New York. That Company being willing to contract to attempt to filter water for the city supply under the guarantee that before our Company should be called upon to accept the plant, it should be demonstrated by a six months' continuous test that the plant had the capacity to deliver 14,000,000 gallons per diem of water, free from sediment and opalescent tint, and uncontaminated by the precipitants used in the process—the expenses of the test to be borne by the Waterworks Company. The National Water Purifying Company, under this contract, installed thirty filters and entered into a six months' trial test of the capacity of the plant to deliver the contracted quantity and quality of water. This test resulted in a demonstration of the incapacity of the plant to furnish either the quantity or quality of water contracted for, and resulted in the rejection of the plant by this Company. The National Water Purifying Company claimed that the failure of the plant resulted from some defect in the construction or detail of the plant made necessary by the

character of the water to be filtered, or the sediment contained in the water; and claimed that certain alterations in the plant would increase the capacity, both to clear the water of tint and sediment, and deliver the contract quantity of 14,000,000 gallons per diem. This Company being extremely anxious to obtain clear filtered water, if possible, entered into another agreement with the National Water Purifying Company, providing for another four months' test of the capacity of the filter plant, as modified. This second test commenced on the 5th of April, 1894, and was carried on continuously for four months, under conditions favorable to the filter plant; that is, with the river falling and the water bearing much less than the average amount of sediment than during the same months in former years. This second test was superintended, on behalf of the Filter Company, by experts skilled in the art of filtering water, who operated the plant to its fullest capacity for clarification and delivery; yet the test resulted in a demonstration of the inability of the plant to furnish filtered water of the quantity and quality stipulated in the contract, and the plant was again rejected. As stated in my annual report, April 4th, 1894, "$125,000 of the $250,000 second mortgage bonds are outstanding" (having been delivered to the purchasers, Messrs. Moore, Hyams & Co.), and the proceeds used in part payment of the new engines, suction pipe, buildings and expenditures in connection with the filter plant. The total outlay up to that time for these purposes was represented by the "filter and new engines' account" on the books of the Company, and shows an outlay to that date of $133,643.40. Since that time (April 4th, 1894), there has been no change in the situation of the bonded debt of the Company; and the other $125,000 (of the $250,000) bonds are yet in the treasury of this Company. However, the additional expenses since that date in connection with the purchase and erection of new boilers, and the second test of the filter plant, have increased this amount materially and the "filter and new engines' account" stands

to-day $157,673.19. The expenses strictly incident to the experiment with the filter plant I estimate to be about $25,000.

The Waterworks Company deemed it to the best interest of the Company and the inhabitants of the city to expend the proceeds of its second mortgage bonds in the general improvement and enlargement of its plant and system of distribution, and the installation and erection of new and improved pumping machinery at the station, enabling the prompt delivery of a much larger amount of water than was possible with the old pumps, thus increasing its capacity to distribute water to meet the exigencies of a large demand in case of fire. The Company is also engaged in reinforcing the existing mains both above and below Canal street, and extending an adequate delivery main from the upper limits of its present system towards Carrollton for the better protection and supply of that portion of the city; and has now under contract the extension and reinforcement of its mains both above and below Canal street to the extent of about nineteen miles, involving an outlay of about $100,000. The Company has under consideration other necessary extensions and repairs to the old engine, the expense of which it proposes to meet from the proceeds of the second mortgage bonds. The City Council appropriated in the December, 1894, budget for this Company $78,900 00

(say 1315 plugs and wells at $60.00 per annum.)

From which is deducted annually, for prompt pay during the year, 6 per cent 4,734 00

Leaving the net amount appropriated in the budget ... $74,166 00

The city received during the year for taxes from this Company $32,704 00

And the dividends on the stock owned by the city (3927 shares), at $5.00 per share, amount to ..... 19,635 00— 52,339 00

Making the net cost of the water supply for the city per year $21,827 00

Say $16.59 per fire hydrant (not counting street cleanings, and the supply for public buildings). This sum is in marked contrast with the annual expenditure of $90,000 per annum for its water supply when the city sold the works to the present Company. The "improvement and extension account" stood at date of my last report (April 4, 1894), $474,156.15, and to-day it is $503,206.08. This account is now $108,206.08 in excess of the $395,000 first mortgage bonds sold for that purpose—the said excess of $108,206.08 having been met from other resources of the Company—a portion of which is from bills payable amounting to $40,000. The suit brought by this Company against the city for a construction by the courts of its charter, relative to the City Council granting citizens permission to lay pipes to the river, has been tried in the United States Circuit Court since my last annual report, and was decided against the Company. The Company has appealed the case to the Supreme Court of the United States.

The reports from the Superintendent and Secretary of the Company are filed herewith.

Yours respectfully,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1, 1895.

To the President and Board of Directors New Orleans Waterworks Company:

Gentlemen—During the past year it has seemed proper to increase pressure in the mains. At date of my last report this was due to 65 feet head. Extensions had been gradually, but steadily made without adequate reinforcement of mains, and in September, 1894, the pressure was necessarily increased to 75 feet head. The unpredecented drouth of the autumn of 1894, and its consequences, including increased demands upon the mains, induced the further increase of head in October, 1894, to 85 feet, at which pressure day, and night, your pumps are now being operated. Your contract with the city requires fifty (50) feet head. The needed reinforcement referred to has been provided for, as will be alluded to later.

The drouth, which has been incidentally referred to, was one of unusual duration and severity. It was continuous for some three months, requiring during that time the daily opening of fire hydrants for relief. This was done by the employees of this Company and without help from the city, such as the contract of the Company with the city might demand.

The increased head from 65 feet to 85 feet, has developed, and is developing, the weak points in your distribution, as is shown by the increase in the account of Street repairs.

I have had occasion in previous reports to allude to your 30-inch main on Delta street. This was laid by contract in 1878 in a poor bed, without support, and above it and covering it, railroad tracks have since been laid. Continual and expensive re-

pairs have been necessary on this line during the year, as in past years, but recently the Illinois Central road has consented to remove its tracks to a considerable extent from over your main, and to place heavy timber and other protection over and around the main in question, at its own expense.

Early in December, 1894, the stage of the river was so low as to show a tidal effect from the Gulf. This was made manifest in the salty incrustation in and about the boilers and machinery at the pumping station. At about this time the question was raised, whether, if salt water from the Gulf could manifest its presence at the Waterworks pumping station and above, it would not be dangerous to permit sewage to be discharged, as now contemplated, at the head of Barracks street.

Without calling public attention to the matter, an informal meeting of individuals for consideration of the matter was called at the office of the Board of Health, presided over by Dr. S. R. Olliphant, the President of the Board. The opinions of eminent sanitarians and scientists were expressed, and the result of the conference was that the President of the Board of Health and the President of the Waterworks Company concluded that the danger of contamination to the public water supply of the city from the proposed sewage discharge was too remote for serious consideration.

THE PUMPING STATION.

Here you need a house for your boilers. No one of your Board could visit the plant without endorsing the statement. The interior of your new pump house needs finishing. No one of your Board could visit it without also endorsing this statement.

Your new boilers, with the Hawley down-draft appliance, are doing good work, as are your new engines. You now need to remodel your faithful and magnificent beam engines to complete your plant and make it equal to all demands and exigencies. You have before you the proposal of the Allis Company of Milwaukee to do this work, and, I trust, you will adopt it.

Waterworks people all over the country are on the lookout for the effects of

ELECTROLYSIS

on pipes. I have been watchful in this direction, but have not found a single case of damage from this influence, except in the lead service pipe reported some two years ago.

The suction pipe, which formerly supplied your now dismantled and discarded old engine, has been thoroughly repaired and connected with the 30-inch pipe supplying your new engines.

Major B. M. Harrod has completed the protection of the intake or suction pipes by screen cages, and also, under your directions, has extended the length of the in-take pipes connecting with the Knowles pump and the beam engines.

The 24-inch in-take was extended 12 feet.

The 48-inch in-take was extended 17½ feet

A contract has been made looking to an extension to Carrollton avenue. This will involve some 34,000 feet of pipe, from 6 to 30 inches diameter, and the completion of the contract may be expected during the early summer.

It gives me pleasure now to report on the actual extensions made during the year. In this report I include contracts which will be completed within a few days. I refer to the engagements of the Abbot-Gamble Contracting Company, of St. Louis, whose work; I take leave here to say, has been marked by celerity, intelligence, good material, and cheerful acquiescence in both the letter and spirit of their contracts.

EXTENSIONS.

In January, 1894—On Berlin street, from Rampart to St. David street, 720 feet of four-inch pipe, 1 four-inch valve or gate. (R. McNamara, contractor).

In July, 1894—On Philip street, from Carondelet to Baronne street, 631 feet of six-inch pipe. (R. McNamara, contractor).

In August, 1894—On Philip street, from Coliseum to Prytania street, 170 feet of three-inch pipe, 1 three-inch valve. (J. C. Burns, contractor).

In August, 1894—On Rocheblave street, from Canal to Bienville street, 749 feet six-inch pipe, 1 six-inch valve or gate. (R. McNamara, contractor).

In September, 1894—On Sorapuru street, from Chippewa nearly to Tchoupitoulas street, 1170 feet six-inch pipe, 1 six-inch valve or gate. (Jas. C. Burns, contractor).

In October, 1894—On Dufossat street, from St. Charles to Prytania street, 1020 feet six-inch pipe; on Prytania street, from Dufossat to Upper Line street, 1000 feet six-inch pipe, 53 feet four-inch pipe, 1 six-inch valve or gate. (Manion & Co., contractors).

In October, 1894—On Jennet street, from Webster to Henry Clay street, 320 feet four-inch pipe; on Webster street, from Hurst to Jennet street, 350 feet six-inch pipe, 1 six-inch valve or gate, 1 four-inch valve or gate. (Manion & Co., contractors).

In October, 1894—On Prytania street, from Napoleon to near Upper Line street, 1176 feet six-inch pipe, 1 six-inch valve or gate. (Jas. C. Burns, contractor.)

In December, 1894—On Common street, from Claiborne to Rocheblave street, 2956 feet six-inch pipe; on Rocheblave street, from Common to Canal street, 1550 feet six-inch pipe; on Prieur street, from Common street to a point between Palmyra and Gasquet streets, 504 feet six-inch pipe; on Roman street, from Common street to a point between Palmyra and Gasquet streets, 360 feet six-inch pipe; on Claiborne street, woods side, from Common to Gasquet street, 605 feet six-inch pipe; for hydrant service connections to above, 459 feet four-inch pipe, 5 six-inch valves or gates. (Jas. C. Burns, contractor.)

In December, 1894—On St. Charles avenue, from Calliope to Felicity street, 2511 feet eight-inch pipe 2 eight-inch valves or gates. (Jas. C. Burns, contractor).

In December, 1894—Placed fire well at intersection of Front and Terpsichore streets, connection from New Levee street, 320 feet six-inch pipe, 1 six-inch valve or gate. (Jas. C. Burns, contractor.)

In January, 1895—On South Peters street, from St. James to Celeste street, 376 feet four-inch pipe; on Celeste street, 135 feet three-inch pipe. (R. McNamara, contractor).

In January, 1895—On Roman street, between Gasquet and Canal streets, 183 feet six-inch pipe ; on Derbigny street, between Common and Canal streets, 960 feet six-inch pipe; on Prieur, between Gasquet and Canal streets, 187 feet six-inch pipe ; on Johnson, between Gasquet and Canal streets, 188 feet six-inch pipe ; on Johnson, between Common and Gravier streets, 716 feet six-inch pipe, 24 feet eight-inch pipe. (Manion & Co., contractors.)

In February, 1895—On Constance street, from Jackson to Washington avenue, 2102 feet six-inch pipe ; on Philip street, 22 feet six-inch pipe ; on Washington, from Constance to Magazine street, 382 feet eight-inch pipe, 2 six-inch valves or gates, 1 eight-inch valve or gate. (Manion & Co., contractors.)

There being needed but a few days to complete the following work, under contract, by the Abbot-Gamble Contracting Company, of St. Louis, I report it as part of the year's work, and as follows :

On St. Philip street, from Galvez to Dorgenois street, 1520 feet eight-inch pipe, 1 eight-inch valve or gate.

On Derbigny street, from St. Ann to Canal street, 2679 feet eight-inch pipe, 4 eight-inch valves or gates.

On Johnson street, from Ursulines to Canal street, 3818 feet six-inch pipe, 5 six-inch valves or gates.

On Tonti street, from Ursulines to Canal street, 3820 feet six-inch pipe, 5 six-inch valves or gates.

On Customhouse street, from Claiborne to Rocheblave street, 2913 feet six-inch pipe, 3 six-inch valves or gates.

On Pricur street, from St. Philip to Canal street, 3392 feet six-inch pipe, 6 valves or main gates.

On Bienville street, from Johnson to Rocheblave street, 1467 feet six-inch pipe.

On Claiborne street, river side, from St. Philip to St. Ann street, 756 feet six-inch pipe, 1 valve or main gate.

On St. Peter street, from Johnson to Galvez street, 375 feet six-inch pipe.

On Johnson street, Ursulines to Hospital street, 350 feet six-inch pipe.

On Miro street, from Ursulines to Hospital street, 350 feet six-inch pipe.

On Franklin street, from Euphrosine to Felicity street, 2423 feet eight-inch pipe, 2 eight-inch valves or gates.

On Locust street, from Clio to Felicity street, 1365 feet six-inch pipe, 2 six-inch valves or gates.

On Thalia street, from Rampart to Clara street, 2453 feet six-inch pipe.

On Clara street, from Thalia to Calliope street, 1027 feet six-inch pipe, 3 six-inch valves or gates.

On Lafayette street, from Liberty to Johnson street, 3450 feet eight-inch pipe.

On Johnson street, from Lafayette to Perdido street, 807 feet six-inch pipe, 3 eight-inch valves or gates.

On Howard street, from Lafayette to Perdido street, 1072 feet six-inch pipe, 2 six-inch valves or gates.

On Freret street, from Lafayette to Perdido street, 1074 feet six-inch pipe, 2 six-inch valves or gates.

On Locust street, from Lafayette to Perdido street, 1078 feet six-inch pipe, 2 six-inch valves or gates.

On Willow street, from Lafayette to Poydras, 429 feet six-inch pipe.

On Claiborne street, woods side, from Lafayette to Poydras street, 300 feet six-inch pipe.

On Claiborne street, woods side, from Lafayette to Cypress street, 300 feet six-inch pipe.

On Bertrand street, from Perdido to Poydras street, 450 feet six-inch pipe.

On Bertrand street, from Lafayette to upper side of Cypress street, 220 feet six-inch pipe.

On Claiborne street, woods side, from Lafayette to upper side of Cypress street, 415 feet six-inch pipe.

On Clara street, from a point between Lafayette and Poydras streets, in continuance of an existing six-inch pipe, to the upper side of Cypress street, 580 feet six-inch pipe.

On Washington avenue, from St. Charles to St. Denis street, 1420 feet eight-inch pipe, 1 eight-inch valve or gate.

On Carondelet street, from First to Conery street, 1531 feet six-inch pipe, 2 six-inch valves or gates.

On Baronne street, from Philip street to Washington avenue, 1484 feet six-inch pipe, 1 six-inch valve or gate, 1 eight-inch valve or gate.

It will thus be seen that 65,317 feet of pipe have been laid during the year, or 12⅜ miles, making your distribution up to date, 98⅝ miles.

The contract, which has been let for extension from Race street to Carrollton avenue, to which I have referred, amounts to 6¼ miles. This amounts, in actual work done, and contracts made, to an increase during the year of some 18¾ miles of pipes, or more than has been done for past ten years.

Besides this there are immediate demands, upon favorable terms, for some ten miles of further extension.

At date of last report the city was paying for 1176 hydrants and wells. On January 1, 1895, the number was 1315, an in-

crease of 139. Since January 1st, there have been added, to be included in the next, or June city budget, 101 hydrants and wells, making a total increase during the year to date, of 230 fire hydrants and 10 fire wells.

This number is being increased daily, as the city ordinances ordering such work have not yet been fully complied with.

Private or family services have been increased by 218 taps.

Your water rate receipts are the largest of any year in the history of the Company, and show an increase of some $10,000 during the year, with some $2000 of uncollected bills in excess over same date in 1894.

I append as part of my report a statement of the work done during the year by the Street Department, and inventory of pipes and specials on hand for extensions and repairs.

There is filed in the office, as usual, the station engineer's inventory of tools and materials on hand and also inventory of tools on hand in shop.

Respectfully submitted,

L. H. GARDNER,
Superintendent.

ENGINE RECORD, APRIL 1, 1894, TO MARCH 29, 1895.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate of Engine.	Gallons Oil	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total								
1894													
April.....	138,472,260	80	1,051	.....	.....	48,831,232	732	.....	.....	.....	.....	.....	.....
	124,387,956	79	840	17	1,908	54,166,720	822	.....	8.	4 ft. 9 in	133	109	262,860,216
May	174,954,159	86	1,352	.....	.....	51,143,842	718	.....	.....	.....	.....	.....	.....
	143,398,812	86	1,059	49	2,460	53,905,327	1,059	.....	6.	6 ft. 0 in	125	112	318,352,971
June	175,100,104	94	1,168	.....	.....	65,274,121	832	.....	.....	.....	.....	.....	.....
	140,167,684	94	887	16	2,071	68,850,788	878	.....	7.	9 ft. 6 in	147	105	315,267,788
July	186,999,214	95	1,859	.....	.....	44,266,351	559	.....	.....	.....	.....	.....	.....
	152,590,579	91	1,303	40	3,202	49,384,688	650	.....	6.	13 ft. 10 in	161	155	339,589,793
August	146,870,679	70	986	.....	.....	48,305,973	827	.....	.....	.....	.....	.....	.....
	108,196,174	68	680	14	1,680	50,130,894	883	.....	5.½	14 ft. 9 in	138	123	255,066,853
September ..	135,073,704	73	695	.....	.....	65,683,364	1,078	.....	.....	.....	.....	.....	.....
	112,666,635	73	648	3	1,346	58,727,483	964	.....	5.½	15 ft. 2 in	141	99	247,740,339
October.....	194,899,708	98	1,060	.....	.....	83,488,170	1,021	.....	.....	.....	.....	.....	.....
	148,287,457	98	855	20	1,935	137,651,327	963	.....	6.	15 ft. 7 in	171	111	343,187,165
November...	158,348,884	96	872	.....	.....	80 803,346	1,009	.....	.....	.....	.....	.....	.....
	129,614,790	96	814	32	1,718	70,787,702	884	.....	5.½	16 ft. 6 in	145	90	287,963,674
December ...	161,117,438	93	898	.....	.....	77,330,388	996	.....	.....	.....	.....	.....	.....
	147,126,572	93	891	...	1,789	61,472,455	917	.....	6.	16 ft. 5 in	151	96	308,244,010
Jany. 1895..	148,162,419	86	865	.....	.....	68,207,967	950	.....	.....	.....	.....	.....	.....
	111,809,283	86	761	23	1,649	58,578,517	816	.....	6.	14 ft. 5 in	145	100	259,971,702
February	127,488,185	91	708	.....	.....	76,065,944	1,001	.....	.....	.....	.....	.....	.....
	128,761,160	91	782	63	1,553	69,454,153	914	.....	6.	12 ft. 8 in	115	87	256,249,345
March 1-29..	143,678,231	88	1,079	.....	.....	54,298,829	740	.....	.....	.....	.....	.....	.....
	122,852,894	88	990	107	2,176	50,625,601	689	.....	6.	12 ft. 8 in	123	108	266,531,125
Totals.....	3,461,024,981		23,103	384	23,487	.....	.....	.....	.....	.....	1695	1295	3,461,024,981

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	755
Holly	460
Underground or flush	122
Mathew	51
Iron case	36
Boston	5
Fire Wells	61—1490
Main stop cocks or gates	783

DISTRIBUTION—CAST IRON PIPES.

3 inch . .. 39,850 ft.	10 inch.....27,984 ft.	20 inch..... 2,500 ft.
4 inch..... 83,453 ft.	12 inch..... 8,375 ft.	24 inch..... 2,400 ft.
6 inch.....172,484 ft.	16 inch.....21,175 ft.	30 inch.....16,100 ft.
8 inch.....126,997 ft.	18 inch.....16,400 ft.	36 inch..... 3,600 ft.

Or say, 98.61 miles.

Mean Temperature and Rain Fall in New Orleans for past Eleven Years.

MEAN TEMPERATURE.													RAIN FALL.										
	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895		1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
Jan..	47	52	39	51	56	51	65	53	49	50	58	52	Jan..	4.35	9.70	7.53	4.26	3.29	6.51	.66	3.75	5.87	2.50	1.76	7 19
Feb ..	61	53	42	65	59	52	64	62	61	61	55	58	Feb ..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42	0.04	4.92	11.06	3 92
Mar..	65	58	58	62	60	58	62	61	59	61	63	62	Mar..	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3.49	5.94	3 81
Apr ..	68	70	65	68	70	70	70	68	69	72	70	...	Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	3.70	4.71	.....
May	76	74	72	75	73	74	74	74	74	76	75	...	May..	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	2.62	2.66	1.79	.....
June	79	82	79	78	77	78	80	81	79	80	78	...	June	8 60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	5.30	5.19	.....
July..	85	83	80	80	81	83	81	81	80	83	79	...	July..	4.12	6.15	4.35	7.85	2.04	9.13	6.50	4.57	7.46	3 72	11.51	.....
Aug..	82	75	81	81	75	81	80	81	82	82	80	...	Aug..	.87	4.25	2.40	7.42	22.74	5.59	3.62	1.69	6.96	4.56	7.32	.....
Sept.	81	72	78	77	75	79	77	78	77	80	80	...	Sept.	3. 12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	6.33	4.38	92	.....
Oct....	74	56	69	69	68	70	69	68	71	69	71	...	Oct ..	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	2.14	4.24	.89	.....
Nov..	60	51	59	61	62	59	64	60	62	60	60	...	Nov .	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	3 55	6.24	1 34	.....
Dec...	59	46	51	53	51	64	56	56	56	58	58	..	Dec...	8.01	4.38	2.57	7.56	3.68	.67	2.58	3.93	3.22	2.31	2.01	.....

NEW EXTENSIONS DONE BY CONTRACTORS.

1 3 inch Chapman valves.
2 4 inch Chapman valves.
1 6 inch Chapman valve, flanged for fire well.
15 6 inch Chapman valves.
2 8 inch Chapman valves.
1 4 x 3 inch three way branches.
3 4 x 4 inch three way branches.
43 6 x 4 inch three way branches.
2 6 x 6 inch three way branches.
10 8 x 4 inch three way branches.
2 8 x 6 inch three way branches.
1 16 x 6 inch three way branch.
3 4 x 4 inch four way branches.
3 6 x 4 inch four way branches.
11 6 x 6 inch four way branches.
3 8 x 4 inch four way branches.
4 8 x 6 inch four way branches.
1 8 x 8 inch four way branch.
1 10 x 6 inch four way branch.
3 4 x 3 inch reducing pipes.
1 6 x 3 inch reducing pipes.
2 6 x 4 inch reducing pipes.
1 8 x 4 inch reducing pipes.
2 4 inch eighth bends.
8 6 inch eighth bends.
6 8 inch eighth bends.
1 6 inch quarter bend for fire well.
1 3 inch sleeve.
8 4 inch sleeves.
13 6 inch sleeves.
6 8 inch sleeves.
1 10 inch sleeve.
2 8 inch saddles.

NEW EXTENSIONS DONE BY CONTRACTORS—Continued.

505 Feet 3 inch pipe.
2959 Feet 4 inch pipe.
4 Feet 4 inch pipe, flanged for fire well.
16649 Feet 6 inch pipe.
2 Feet 8 inch pipe.
2 4 inch cast iron plugs for branches.
4 6 inch cast iron plugs for branches.
1 8 inch cast iron plug for branches.
21 6 inch cypress plugs for branches.
2 8 inch cypress plugs for branches.
16 ⅝ inch machine bolts and nuts.
2 Single nozzle Holly fire plugs.
52 Double nozzle Holly fire plugs.
15 Pounds gum packing.
20 Morgan frames and covers.
1 Brick fire well.
1 Large cast iron cover for fire well.
1 Key for stop cock for fire well.
2 12 inch extensions for double nozzle Holly fire plugs.
4 18 inch extensions for double nozzle Holly fire plugs.
3139 Feet 1 inch cypress boards.
4600 Feet 4 x 4 inch scantling.
86 Feet 12 x 12 inch scantling.
5 ½ inch wrought iron braces to support main pipe.
200 Yards stone pavement.
11⅔ Yards asphalt pavement.

MATERIAL USED AND WORK DONE IN STREET SERVICE.

407 Leaking wooden cased fire hydrants repaired.
125 Wrought iron rods.
125 Wrought iron rods and clamps.

MATERIAL USED AND WORK DONE IN STREET SERVICE—Continued.

250	Wrought iron stirrups and nuts.
125	Wrought iron buttons.
200	Wrought iron slats.
250	Wrought iron keys to fasten screw clamps.
4	Wrought iron top bands for repairs to cases.
15	Wrought iron middle bands for repairs to cases.
12	Wrought iron bottom bands for repairs to cases.
46	Wrought iron hooks for top staves for repairs to cases.
250	Cast iron valve flanges, small.
250	Cast iron valve flanges, large.
4	Cast iron covers, with hinges.
53	Brass nozzles to replace broken ones.
103	Bent nozzles straightened and filed.
56	New cypress cases and covers, with hinges.
46	New cypress top staves for repairing old cases.
4	New cypress side staves for repairing old cases.
8	New cypress bottom staves for repairing old cases.
4	New cypress back staves for repairing old cases.
125	Gum valves.
125	New joints.
407	Joints caulked.
407	Packings removed.
750	Pounds pig lead.
25	Pounds hemp packing yarn.
900	Pounds coal.
2	Broken wooden cased fire plugs replaced with new ones.
1	Removed wooden cased fire plug replaced with under ground fire hydrant.
1	Removed wooden cased fire plug replaced with Holly fire hydrant.
14	Leaking Philadelphia fire hydrants repaired.
9	Wrought iron rods.

MATERIAL USED AND WORK DONE IN STREET SERVICE—Continued.

9 Wrought iron screws and clamps.
18 Wrought iron stirrups and nuts.
9 Wrought iron buttons.
9 Wrought iron slats.
18 Wrought iron keys to fasten screw clamps.
18 Cast iron valve flanges, small.
18 Cast iron valve flanges, large.
3 Cast iron cases and covers with hinges.
4 Cast iron cases and covers with hooks.
2 Cast iron covers with hinges.
4 New brass nozzles replaced for broken ones.
2 New brass packing boxes for bad ones.
4 Bent nozzles straightened and filed.
9 New joints.
14 Joints caulked.
14 Packings renewed.
9 New gum valves.
72 Pounds pig lead.
12 Pounds hemp packing.
450 Pounds coal.
14 Leaking underground fire hydrants repaired.
5 Copper rods.
9 Wrought iron rods.
9 Wrought iron screws with brass nuts.
9 Wrought iron buttons.
18 Wrought iron stirrups and nuts.
24 Wrought iron slats.
18 Cast iron valve flanges, small.
18 Cast iron valve flanges, large.
5 Cast iron frames and covers.
3 Boiler iron covers.
8 New brass nozzles to replace broken ones.

MATERIAL USED AND WORK DONE IN STREET SERVICE—Continued.

9	New brass nuts for screws.
8	Bent nozzles straightened and filed.
4	New cypress cases.
9	New gum valves.
9	New joints.
14	Joints caulked.
14	Packings renewed.
60	Pounds pig lead.
9	Pounds hemp packing yarn.
450	Pounds coal.
1	Underground fire plug replaced with wooden cased fire plug.
1	Underground fire plug extended twenty-four feet.
108	Feet 4 inch pipe.
1	4 inch ¼ bend.
95	Pounds pig lead.
5	Pounds hemp packing yarn.
1	New wooden cased fire hydrant, all complete.
1	New cypress case and cover with hinges.
70	Pounds coal.
155	Leaking Holly fire hydrants repaired.
149	Wrought iron screws covered with brass.
149	Cast iron valves.
149	Cast iron valve seats.
4	Cast iron frost jackets.
18	Cast iron top covers.
4	Cast iron glands or packing box caps.
7	Cast iron ferrules to cover screws.
4	Cast iron extensions, 2 feet long.
2	Cast iron extensions, 1 foot long.
15	Brass nozzles filed and straightened.
155	Joints caulked.

MATERIAL USED AND WORK DONE IN STREET SERVICE—Continued.

155 Packings renewed.
149 New gum valves.
15 Pounds gum packing.
72 ½ inch bolts for top covers.
24 ½ inch bolts for new extensions.
4 Holly fire plugs to replace broken Mathew fire hydrants.
65 Pounds pig lead.
9 Pounds hemp packing yarn.
100 Pounds coal.
8 Leaking Mathew fire hydrants repaired.
8 Gum valves.
5 Hollow brass nuts.
5 Cast iron top nuts.
3 Broken Mathew hydrants removed and replaced with new Holly fire hydrants.
1 Broken Mathew fire hydrant removed and replaced with wooden cased fire hydrant.
1 New 4 inch goose neck.
1 Wooden cased fire hydrant.
1 New wooden case and cover with hinges.
12 Feet 4 inch pipe.
75 Pounds pig lead.
8 Pounds hemp packing yarn.
100 Pounds coal.
3 New Holly fire hydrants, single nozzle.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

89 Lengths 3 inch pipe, 12 feet each.
58 Lengths 4 inch pipe, 12 feet each.
136 Lengths 6 inch pipe, 12 feet each.
122 Lengths 8 inch pipe, 12 feet each.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

37 Lengths 10 inch pipe, 12 feet each.
4 Lengths 12 inch pipe, 12 feet each.
6 Lengths 16 inch pipe, 12 feet each.
5 Lengths 18 inch pipe, 12 feet each.
3 Lengths 20 inch pipe, 12 feet each.
5 Lengths 24 inch pipe, 12 feet each.
22 Lengths 30 inch pipe, 12 feet each.
13 Lengths 36 inch pipe, 12 feet each.
1 Length 48 inch pipe, 12 feet each.
30 Feet of 3 inch pipe, in pieces of various lengths.
24 Feet of 4 inch pipe, in pieces of various lengths.
53 Feet of 6 inch pipe, in pieces of variouslengths.
44 Feet of 8 inch pipe, in pieces of various lengths.
160 Feet of 8 inch pipe, in 32 pieces of 5 feet each.
40 Feet of 10 inch pipe, in pieces of various lengths.
13 Feet of 12 inch pipe, in pieces of various lengths.
9 Feet of 16 inch pipe, in pieces of various lengths.
4 Feet of 18 inch pipe, in pieces of various lengths.
4 Feet of 20 inch pipe, in pieces of various lengths.
11 Feet of 24 inch pipe, in 2 pieces of 8 and 3 feet.
2 Pieces of 30 inch pipe, 9 feet each, with bell.
1 Piece of 30 inch pipe, 8 feet.
1 Piece of 30 inch pipe, 5 feet 6 inches.
1 Piece of 30 inch pipe, 4 feet, with bell.
1 Piece of 36 inch pipe, 5 feet, with bell.
1 Piece of 36 inch pipe, 4 feet, with bell.

THREE WAY BRANCHES.

10 Pieces 3 x 3.
1 Piece 3 x 3, with 3 bells.
3 Pieces 4 x 3, with 3 bells.
12 Pieces 4 x 3.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

6 Pieces 4 x 4.
11 Pieces 6 x 3.
12 Pieces 6 x 4.
26 Pieces 6 x 6.
2 Pieces 8 x 3, with 3 bells.
11 Pieces 8 x 3.
1 Piece 8 x 4.
1 Piece 8 x 6, with 3 bells.
15 Pieces 8 x 6.
15 Pieces 8 x 8.
3 Pieces 10 x 3.
3 Pieces 10 x 4.
1 Piece 10 x 6, with 3 bells.
15 Pieces 10 x 6.
2 Pieces 10 x 8.
3 Pieces 10 x 10.
6 Pieces 12 x 6.
2 Pieces 12 x 8, with 3 bells.
1 Piece 16 x 8.
2 Pieces 30 x 8, with 1 bell.
5 Pieces 30 x 12, with 3 bells.

FOUR WAY BRANCHES.

9 Pieces 3 x 3.
9 Pieces 4 x 4, 4 bells.
20 Pieces 4 x 4.
19 Pieces 6 x 3.
5 Pieces 6 x 4.
6 Pieces 6 x 6, 4 bells.
27 Pieces 6 x 6.
10 Pieces 8 x 3.
7 Pieces 8 x 4.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

1 Piece 8 x 6, 4 bells.
25 Pieces 8 x 6.
1 Piece 8 x 8, 4 bells.
5 Pieces 8 x 8.
8 Pieces 10 x 3.
13 Pieces 10 x 4.
15 Pieces 10 x 6.
3 Pieces 10 x 8.
3 Pieces 12 x 6.
2 Pieces 12 x 8.
4 Pieces 16 x 6.
5 Pieces 16 x 8.
1 Piece 16 x 12.
1 Piece 20 x 8.
1 Piece 20 x 12.
1 Piece 30 x 8.

BENDS.

12 3 inch quarter bends.
9 4 inch quarter bends.
15 6 inch quarter bends.
22 8 inch quarter bends.
2 10 inch quarter bends.
7 3 inch eighth bends.
9 4 inch eighth bends.
7 6 inch eighth bends.
13 8 inch eighth bends.
4 10 inch eighth bends.

REDUCERS.

5 4 to 3 reducers.
3 6 to 3 reducers.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

6 6 to 4 reducers.
5 8 to 3 reducers.
11 8 to 4 reducers.
8 8 to 6 reducers.
1 12 to 6 reducer.
2 12 to 8 reducers.
1 12 to 10 reducer.
1 16 to 12 reducer.
1 18 to 16 reducer.
1 20 to 12 reducer.
6 8 to 6 reducers, both ends spigot.

SLEEVES.

13 3 inch sleeves, 18 inches long.
8 4 inch sleeves, 18 inches long.
5 6 inch sleeves, 18 inches long.
7 8 inch sleeves, 18 inches long.
4 10 inch sleeves, 18 inches long.
2 10 inch sleeves, 10 inches long.
12 12 inch sleeves, 18 inches long.
10 16 inch sleeves, 18 inches long.
1 16 inch sleeve, 30 inches long.
1 16 inch sleeve, 12 inches long.
10 18 inch sleeves, 18 inches long.
1 24 inch sleeve, 18 inches long.
2 30 inch sleeves, 15 inches long.
1 30 inch sleeve, 16 inches long.
1 30 inch sleeve, 24 inches long.

HALF SLEEVES.

2 10 inch half sleeves, 10 inches long.
2 12 inch half sleeves, 10 inches long.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

2 16 inch half sleeves, 12 inches long.
2 18 inch half sleeves, 12 inches long.
1 36 inch half sleeve, 30 inches long.

VALVES.

1 3 inch Ludlow valve.
7 3 inch Chapman valves.
39 4 inch Chapman valves.
2 6 inch Chapman valves.
14 6 inch Chapman flange valves.
7 8 inch Chapman valves.
1 8 inch Rensselær valve.
1 8 inch Eddy valve.
3 10 inch Chapman valves.
1 10 inch R. D. Wood valve.

PLUGS.

3 8 Inch cast iron plugs.
1 18 inch cast iron plug.
1 30 inch cast iron plug.
11 3 inch parallel cypress plugs.
6 4 inch parallel cypress plugs.
4 6 inch parallel cypress plugs.
16 8 inch parallel cypress plugs.
4 3 inch taper cypress plugs.
2 4 inch taper cypress plugs.
8 6 inch taper cypress plugs.
9 8 inch taper cypress plugs.
19 10 inch taper cypress plugs.
9 Wood case fire hydrants.
23 Single Holly fire hydrants.
24 Double Holly fire hydrants.

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS—Continued.

25 12 inch extensions for single Holly hydrants.
30 15 inch extensions for single Holly hydrants.
30 18 inch extensions for single Holly hydrants.
16 24 inch extensions for single Holly hydrants.
17 12 inch extensions for double Holly hydrants.
29 15 inch extensions for double Holly hydrants.
28 18 inch extensions for double Holly hydrants.
13 24 inch extensions for double Holly hydrants.
15 18 inch extensions for wood case hydrants.
100 Valves for single Holly hydrants.
50 Valves for double Holly hydrants.
50 Valve seats for single Holly hydrants.
50 Valve seats for double Holly hydrants.
50 Screws for Holly hydrants.
62 Tops for single Holly hydrants.
50 Tops for double Holly hydrants.
104 Brass stuffing boxes for Holly hydrants.
100 No. 1 bolts for Holly hydrants.
8 Cast iron covers for wood case hydrants.
45 Rods for hydrants.
45 Glands for 4 inch Chapman valves.
20 Glands for 6 inch Chapman valves.
20 Glands for 8 inch Chapman valves.
411 Pigs of lead (at 85½ lbs.) 37,140 pounds.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE REPAIRS.

EDDY OR WOOD IRON SCREWS FOR MAIN STOP COCKS.

25 6 inch iron screws.
23 8 Inch iron screws.
5 10 inch iron screws.
3 12 inch iron screws.

Materials on Hand in Work Shop for Street Service Repairs—Continued.

Chapman Iron Screws for Main Stop Cocks.

15 3 inch iron screws for main stop cocks.
14 4 inch iron screws for main stop cocks.
16 6 inch iron screws for main stop cocks.
15 8 inch iron screws for main stop cocks.

Ludlow or Boston Iron Screws for Main Stop Cocks.

7 6 inch iron screws for main stop cocks.
15 8 inch iron screws for main stop cocks.
1 6 inch brass screw for main stop cock.
2 8 inch brass screws for main stop cocks.

Whittier or Boston Iron Screws for Main Stop Cocks.

12 6 inch iron screws for main stop cocks.
12 8 inch iron screws for main stop cocks.
12 10 inch iron screws for main stop cocks.
12 12 inch iron screws for main stop cocks.
12 20 inch iron screws for main stop cocks.

Thompson & West Iron Screws for Main Stop Cocks.

15 3 inch iron screws for main stop cocks.
6 4 inch iron screws for main stop cocks.
1 6 inch iron screw for main stop cock.
1 10 inch iron screw for main stop cock.
20 12 inch iron screws for main stop cocks.
14 16 inch iron screws for main stop cocks.
17 18 inch iron screws for main stop cocks.
8 Packing box bolts and nuts.
98 ⅝ inch machine bolts and nuts.
59 Unfinished cast iron glands, from 3 to 12 inch, for main stop cocks.
37 Unfinished cast iron glands, from 16 to 18 inch, for main stop cocks.

Materials on Hand in Work Shop for Street Service Repairs—Continued.

35 Finished cast iron glands, from 4 to 8 inch, for main stop cocks.
2 Wooden cases for main stop cocks.
22 Wooden frames for main stop cocks.
100 Pounds ⅝ inch iron washers for all repairs.
61 Pounds ¼ inch mixed gum packing.
615 Pounds tarred hemp packing yarn.
32 Pounds white lead.
230 Pounds pig lead.

Cypress Plugs for Ends of Main Pipes.

3 2 to 4 inch tapering plugs.
4 4 to 7 inch tapering plugs.
5 5 to 10 inch tapering plugs.
1 6 to 12 inch tapering plug.
1 3 inch straight plug for end of main pipe.
1 4 inch straight plug for end of main pipe.
12 6 inch straight plugs for ends of main pipes.
12 8 inch straight plugs for ends of main pipes.
1 12 inch straight plug for end of main pipe.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE CONNECTIONS.

104 ½ inch ferrules.
81 ¾ inch ferrules.
44 1 inch ferrules.

For Wooden Cased Fire Hydrants.

3 Wooden cased fire hydrants in good order.
4 Wooden cased fire hydrants not in repair.
2 Philadelphia iron cased fire hydrants in good repair.
2 Philadelphia iron cased fire hydrants not in repair.

Materials on Hand in Work Shop for Street Service Connections—Continued.

5	Underground fire hydrants in good repair.
4	Underground fire hydrants not in repair.
4	Iron covers for wooden cased fire hydrants in good repair.
4	Iron covers for wooden cased fire hydrants not in repair.
3	Philadelphia covers for iron cased fire hydrants in good repair.
2	Philadelphia covers for iron cased fire hydrants not in good repair.
2	Philadelphia covers for iron cased fire hydrants, with hooks, in good repair.
6	Philadelphia covers for iron cased fire hydrants, with hooks, not in repair.
1	Philadelphia cover for iron cased fire hydrant, with hinges, not in repair.
5	Underground fire hydrant frames and covers in good repair.
31	Wrought iron hooks for wooden cased fire hydrants in good repair.
23	Wrought iron rods for wooden cased fire hydrants.
32	Wrought iron rods for Philadelphia cased fire hydrants.
13	Wrought iron rods for underground fire hydrants.
12	Copper rods for underground fire hydrants.
402	Wrought iron buttons for Philadelphia wooden cased and underground fire hydrants.
456	Wrought iron slats.
203	Wrought iron keys to fasten screw clamps.
12	Wrought iron screws without clamps.
3	Wrought iron screws with clamps.
53	Wrought iron middle bands for wooden cased fire hydrants.
73	Wrought iron bottom bands for wooden cased fire hydrants.
234	Cast iron valve flanges, small.
89	Cast iron valve flanges, large.

MATERIALS ON HAND IN WORK SHOP FOR STREET SERVICE CONNECTIONS—Continued.

25 Gum valves.
1 3 inch goose neck.
1 4 inch goose neck.
3 Cypress cases and covers, with hinges for fire hydrants.
18 Brass nozzles for fire hydrants.

FOR HOLLY FIRE HYDRANTS.

36 Wrought iron screws covered with brass.
15 Cast iron valves for single nozzle.
15 Cast iron valve seats for single nozzle.
2 Cast iron valves for double nozzle.
2 Cast iron valve seats for double nozzle.
4 Cast iron top covers.
4 Cast iron O. G. top sections, with nozzles.
6 Cast iron extensions for raising fire hydrants.
179 Cast iron ferrules to cover screws.
37 Brass glands for packing boxes.
25 Brass nozzles.
2 Wrought iron rods.
101 ½ inch bolts for extensions.
124 ⅝ inch bolts and nuts for frost jackets.
108 ½ inch bolts for top covers.
29 Gum valves.

FOR MATHEW FIRE HYDRANTS.

37 Brass hollow screws.
49 Gum valves.
2 Lengths 4 inch pipe.
1 Length 6 inch pipe.
2 6 inch ⅛ bends.
2 6 inch ¼ bends.
2 6 inch sleeves.

Tools in the Work Shop.

16 Shovels.
1 Spade.
12 Picks.
1 Crowbar.
5 Asphalt axes.
4 Grub axes.
4 Wood axes.
3 Hatchets.
1 Stone hammer.
1 Paving hammer.
6 Caulking hammers.
2 Sledge hammers,
20 Caulking tools.
18 Diamond points.
2 Cube chisels.
2 Chipping chisels.
6 Cutting chisels.
3 Yarning irons.
10 Rammers.
23 Stop keys of all kinds.
2 Lead pots.
2 Lead ladles.
2 Furnaces.
3 Bilge pumps.
6 Suctions.
3 Baskets for suction hose.
5 Spanners.
7 Red or danger light lanterns.
2 White lanterns.
10 Torch lanterns.
15 Patent gasquets, from 3 to 10 inch.
1 Old drilling machine, with drills and taps.
2 Patent drilling machines.

Tools in the Work Shop—Continued.

1 Ratchet wrench.
10 Copper goose necks for nozzle Holly fire hydrants.
9 Copper goose necks for wooden cased fire hydrants.
1 Grindstone.
2 Drill presses.
1 Bench vice.
3 Monkey wrenches.
1 Alligator saw.
1 Rip saw.
4 Cross cut saws.
1 Draw knife.
1 Spoke shave.
1 Brace.
3 Wood chisels.
2 Squares.
2 Twist drills.
4 Wood bits.

Screws Furnished to Main Stop Cocks.

3 3 inch Thompson & West iron screws.
5 4 inch Thompson & West iron screws.
5 6 inch Thompson & West iron screws.
8 8 inch Thompson & West iron screws.
6 10 inch Thompson & West iron screws.
1 12 inch Thompson & West iron screw, brass nuts.
3 16 inch Thompson & West iron screws, brass nuts.
4 18 inch Thompson & West iron screws.
2 8 inch Boston iron screws, double thread.
222 ⅞ inch machine bolts and nuts.
74 Packing box bolts and nuts.
5 Cypress cases.
20 Wooden frames.

Private Extensions.

24 Feet 4 inch pipe.
4 Feet 6 inch pipe.
1 4 inch Chapman valve.
1 6 inch Chapman valve.
2 4 inch ¼ bends.
1 4 inch saddle.
1 6 inch sleeve.
6 ⅝ inch machine bolts and nuts.
3 Pounds gum packing.
90 Pounds pig lead.
6 Pounds hemp packing yarn.
100 Pounds coal.

Stop Cock Screws Replaced.

1 3 inch Chapman valve iron screw.
1 4 inch Chapman valve iron screw.
1 4 inch Thompson & West iron screw.

Drilling Mains for Plumbers.

16 ½ inch ferrules.
105 ⅝ inch ferrules.
77 ¾ inch ferrules.
193 Holes drilled for ferrules.
4 Ditches dug.
22⅔ Yards paving.
3 Connecting branches for plumbers.
17 Closing main stop cocks for repairs to service pipes.

For Contractors Laying New Mains.

23 Connecting branches to existing mains.
2 Connecting saddles to existing mains.

ALTERATIONS ON MAIN PIPES ON ST. ANN, FROM MARAIS TO ROBERTSON.

2 4 x 4 inch three way branches.
1 6 x 4 inch four way branch.
2 4 inch Chapman valves.
696 Feet 4 inch pipe.
500 Pounds pig lead.
17 Pounds hemp packing yarn.
150 Pounds coal.
76 Feet 4 x 3 inch scantling.

FERRULES FOR EXISTING SERVICE PIPES ON NEW MAINS.

4 ¾ inch ferrules.
12 ¾ inch ferrules.
3 ¾ inch ferrules.
2 Broken main pipes, with new pipes.
2 Broken mains plugged.
2 4 inch cypress plugs.
1 6 inch cypress plug.
24 Feet 4 inch pipe.
12 Feet 6 inch pipe.
2 4 inch sleeves.
1 6 inch sleeve.
80 Pounds pig lead.
9 Pounds hemp packing yarn.
150 Pounds coal.
182 Leaks on main stop cocks repaired.
364 Packing box bolts and nuts.
5 Cast iron glands or packing box caps.
5 Cast iron frames.
6 Wooden cases.
166 Wooden frames and covers.
364 Joints caulked.
182 Packings renewed.

FERRULES FOR EXISTING SERVICE PIPES ON NEW MAINS—Continued.

50 Leaks on fire well stop cocks repaired.
100 Packing box bolts and nuts.
100 Joints caulked.
50 Packings renewed.
2 Keys for fire well stop cocks.
7 Ditchings for main stop cocks covered by Pavers and Laborers' Railroad Co.
7 Ditches dug.
46 Raising frames and covers to level of streets.
6 New wooden cases.
5 New cast iron frames and covers.
2 New Morgan frames and covers.
553 Leaks on 3 inch to 20 inch pipes.
45 Leaks on 30 inch main pipes.
3 Leaks on 36 inch main pipes.
12 Service pipes cut and plugged.
13 Ferrules drawn from main pipe.
1 Digging for stop cock.

ALTERATIONS REMOVING MAIN PIPE ON ST. JOSEPH AND CAMP —ALTERATIONS IN REMOVING STOP COCKS ON COMMON AND CAMP.

1 8 x 6 inch three way branch.
1 8 x 4 inch four way branch.
2 4 inch ⅛ bend.
1 6 inch ¼ bend.
1 4 inch sleeve.
1 6 inch sleeve.
2 8 inch sleeves.
1 6 inch Chapman valve.
1 8 inch Chapman valve.
84 Feet 4 inch pipe.

ALTERATIONS REMOVING MAIN PIPE ON ST. JOSEPH AND CAMP—ALTERATIONS IN REMOVING STOP COCKS ON COMMON AND CAMP—Continued.

6 6 inch pipe.
4 8 inch pipe.
3 4 inch cypress plugs.
200 Pounds pig lead.
25 Pounds hemp packing yarn.
230 Pounds coal.
2 New cypress cases for main stop cocks.
12 New wooden frames.
1 New cast iron frame and cover.

MATERIALS USED TO REPLACE BROKEN MAIN PIPES.

48 Broken main pipes replaced with new pipes.
6 3 inch pipes broken.
19 4 inch pipes broken.
1 6 inch pipes broken.
12 8 inch pipes broken.
5 10 inch pipes broken.
1 16 inch pipe broken.
72 Feet 3 inch pipe used.
204 Feet 4 inch pipe used.
48 Feet 6 inch pipe used.
144 Feet 8 inch pipe used.
0 Feet 10 inch pipe used.
12 Feet 16 inch pipe used.
6 3 inch sleeves.
19 4 inch sleeves.
4 6 inch sleeves.
12 8 inch sleeves.
5 10 inch sleeves.
1 16 inch sleeve.
1 3 inch ¼ bend.
3 4 inch cement pipes broken.

MATERIALS USED TO REPLACE BROKEN MAIN PIPES—Continued.

2	2 inch cement service pipes broken.
2640	Pounds pig lead.
100	Pounds hemp packing yarn.
2400	Pounds coal.

PAVEMENT FOR ALL REPAIRS.

3730	Yards stone pavement.
1425	Yards flagging.
1844	Yards brick pavement.
33	Yards Schillinger pavement.
47	Yards asphalt pavement.
62	Yards gravel pavement.
1	Load gravel.

NEW HOLLY FIRE HYDRANTS PLACED ON EXISTING MAINS.

1	3 x 3 inch three way branches.
4	4 x 4 inch three way branches.
8	6 x 4 inch three way branches.
5	8 x 4 inch three way branches.
1	4 x 3 inch reducing pipe.
1	3 inch sleeve.
4	4 inch sleeves.
8	6 inch sleeves.
5	8 inch sleeves.
3	Feet 3 inch pipe.
347	Feet 4 inch pipe.
4	New extensions for double nozzle Holly fire hydrants.
1205	Pounds pig lead.
110	Pounds hemp packing yarn.
12	Pounds gum packing.
970	Pounds coal.
4	Single nozzle Holly fire hydrants.
15	Double nozzle Holly fire hydrants.
82	Yards paving.

NEW HOLLY FIRE HYDRANTS PLACED ON EXISTING MAINS—Continued.

10 Yards flagging.
34 Yards bricking.
18 Yards gravel pavement.
1 Load gravel.

NEW FIRE WELLS PLACED.

4 8 x 6 inch three way branches.
1 8 x 6 inch four way branch.
4 6 inch sleeves.
5 8 inch sleeves.
7 6 inch ⅛ bends.
3 6 inch ¼ bends.
8 6 inch ¼ bends with flanges.
1 6 inch Chapman valve.
8 6 inch Chapman valves with flanges.
32 Feet 6 inch flanged pipe.
127 Feet 6 inch pipe.
4 6 inch saddles.
1 6 inch cypress plug.
94 ⅝ inch machine bolts and nuts.
5 Pounds ⅝ inch washers.
450 Pounds pig lead.
45 Pounds hemp packing yarn.
36 Pounds gum packing.
160 Pounds coal.
1 Cast iron fire well.
8 Brick fire wells.
9 New cast iron covers for fire wells.
9 New wrought iron keys for fire wells.
144 Yards paving.

ALTERATIONS ON OLD FIRE WELLS BELOW THE PAVEMENT.

1 New brick wall built around.
1 New cast iron cover for fire well.

CASH RECEIPTS FOR YEAR ENDING MARCH 30, 1895.

Cash on hand March 31, 1894.....		$ 28,862 10
Cash received from water rates from April 1, 1894, to March 30, 1895..		218,126 33
Cash received for material and fixtures sold	$ 916 70	
Cash received for street service repairs.	818 10	
Cash received for improvements and extensions, for materials sold and labor.	819 31	
Cash received for plumbers' licenses...	61 00	
Cash received for old boilers sold.....	500 00	
Cash received from J. B. Trescazes $63.00, less debit 50cts.....	62 50	
Bills Payable.....	40,000 00	
		43,177 61
		$290,166 04

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 30, 1895.

Pumping Service:	
Wages, labor, repairs, etc	$13,395 22
Hydrant Service:	
Wages, labor, etc	10,699 95
Office Expenses:	
Salaries, wages, etc	8,395 90
Street Service Repairs:	
Wages, materials and repairs	10,787 21
Improvements and Extensions:	
Wages, labor, materials bought, and new extensions	28,466 09
Materials and specials bought	1,480 61
Matured coupons paid, first mortgage	23,820 00
Matured coupons paid, second mortgage	6,250 00
Coal purchased	6,613 94
City taxes, 1894	32,704 00
State taxes, 1894	11,446 40
State license	300 00
Dividends paid	99,241 50
Water rates refunded, First District	853 64
Water rates refunded, Second District	41 00
Attorney's fees and court costs	2,020 00
New engines and filter plant account, expended this year	20,714 65
N. O. Sewerage Co., due for labor	4 00
Interest account	1,836 25
Stationery, printing and advertising	1,079 70
Telephones	348 00
Horse and buggy (keep of)	326 25
Rent of office and shop	1,730 00
Miscellaneous and petty expenses	64 68
Cash in bank and petty cash	7,547 05
	$290,166 04
Coal consumed	$6,983 90

GENERAL BALANCE, MARCH 30, 1895.

ASSETS—		
Invested capital	$2,000,000 00	
Cash on hand	7,547 05	
Materials and fixtures on hand	10,206 65	
Coal on hand	1,445 94	
Cash deposit New Orleans Gas Light Company	10 00	
Improvements and extensions, (amount invested in)	503,206 08	
New engines and filter plant account, expended to date	157,673 19	
New Orleans Sewerage Company, due by them	4 00	
Rosetta Gravel Paving and Improvement Company, due by them	1,804 50	
New Orleans Customhouse	1,200 02	
Due by City of New Orleans	6,575 00	
		$2,689,672 43
LIABILITIES—		
Capital stock	$2,000,000 00	
First mortgage bonds issued	395,900 00	
Second mortgage bonds issued	125,000 00	
Bills payable	40,000 00	
Coupons due and unpaid	75 00	
Dividends unpaid	1,840 00	
Profit and loss	127,757 43	
		$2,689,672 43
Bills for water rates in course of collection, not included in above assets		6,710 30

R. L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being by me, notary, duly sworn, deposes and says that the foregoing is a true and correct transcript from the books of the Company.

ATTEST:

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, notary, this 4th day of April, A. D., 1895.

SEAL.

CHAS. T. SONIAT,
Notary Public.

4189

EIGHTEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks Co.

OFFICERS.

R. E. CRAIG, ... PRESIDENT.
A. BALDWIN, ... VICE-PRESIDENT.
L. H. GARDNER, ... SUPERINTENDENT.
R. L. MACMURDO, ... SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG, ... BY STOCKHOLDERS.
A. BALDWIN, ... "
M. J. HART, ... "
G. W. NOTT, ... "
HON. JOHN FITZPATRICK, MAYOR, ... EX-OFFICIO.
HON. C. H. SCHENCK, CITY TREASURER, ... "
HON. C. TAYLOR GAUCHE, COMMISSIONER OF PUBLIC BUILDINGS, "

APRIL 1st, 1896.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO. LTD., 72178.
1896.

PRESIDENT'S REPORT.

NEW ORLEANS, April 1st, 1896.

To the Board of Directors and Stockholders, New Orleans Waterworks Company:

Gentlemen—Since my last annual report the second installment, $125,000.00 of the second mortgage ($250.000.00) bonds has been delivered to the purchaser: and the present bonded indebtedness of this Company is for first mortgage bonds.....$395,000 00
And for second mortgage bonds 250,000 00

Making the total bonded indebtedness.....$645,000 00
The floating debt is represented by bills payable..... 85,000 00

Making the total indebtedness of this Company to date, $730,000 00
Total extensions and improvements have been made to the extent of $822,184 37
The surplus used in this way has been paid from the revenues of the Company, from time to time, and amounts to..... .... $ 92,184 37

We have at this time no contract out for extension of mains. We have a contract with the E. P. Allis Co., of Milwaukee, Wis., for repairs to the beam engine, amounting to $15,500.00, payable when completed.

The income from water rates collected has increased $12,672.26 over the income for same time last year. The expenses for the same period have been $8,493.18, in excess of last year—being chiefly for increase of interest on the debt. The increase in expenses has already shown itself on the books of the company, while the total increase in revenues to be expected from the additional mains does not appear in the report of the Secretary and Treasurer, owing to the fact that the city of New Or-

leans has not paid our claim for hydrants and fire wells placed during the first half of the year 1895; heretofore, the city has provided in the June budget for such payment (there being no charge for those placed during the latter half of the year). This company, in response to the city ordinances, continued the outlay necessary to place the fire plugs and wells, and the Councilmen recognized our claim of $4,209.00, and passed the proper ordinance, but it was vetoed by Mayor Fitzpatrick. This treatment does not encourage this company to make expensive outlays of money in response to ordinances to install fire hydrants and wells, unless said ordinances are accompanied with some proper provision for payment for the use of them. With the exception noted, the city has made payments regularly from the amount budgeted for water supply for 1895 ($74,166.00). The amount budgeted for water supply for 1896, $91,953.00, does not include the disputed claim of $4,209.00; and the said claim is not at present carried as an asset on the books of the company. The city is paying regularly the monthly bills for water supply, provided for in the budget of 1896. The difference between the budget for water supply in 1895 and 1896 amounts to $17,787.00, the increase being for fire hydrants and wells placed during the year 1895. The expense of conducting our business this year will probably remain about the same as for the past twelve months.

In December last, by vote of the Directors, the office of the Company was changed from Baronne street to its present quarters, 608 Common street.

The suit of the Filter Company, seeking to compel the acceptance of the filter plant, has been brought to trial in the District Court, resulting favorably to the Company on all of the issues.

The Receiver of the Filter Company has, however, taken an appeal from the decree to the Supreme Court, where the cause is now pending. I am advised by our attorney that there is no reasonable apprehension of a reversal of the judgment rejecting the plant.

The suit against the city to obtain a construction of the charter, and *prohibit the city from granting permission to establish* pipes in the streets for private water supply, is still pending in the Supreme Court at Washington, and will not be reached on the docket for trial until about November next.

For more than a year there has been urgent and persistent demand, both by the inhabitants of the Fifth Municipal District, on the left bank of the Mississippi river, and by the Council of the city for the installation of a pumping station with distributing mains for public water supply in the Fifth District; this demand was made more clamorous by the occurrence of several serious fires in Algiers. As this territory is isolated from our pumping station and system of distribution by the intervention of the Mississippi river, and involved the expenditure of large sums of money beyond the amount that could be safely taken from our current revenues to establish an isolated and independent installation, and must involve an increase of the bonded debt, it was deemed best by the Directors to license and authorize the Algiers Water Company to establish a plant for water distribution in the Fifth District, at its own expense, in connection with its ice manufacture and electric light plant. This has been accomplished with the consent of the city authorities. The rights of this company have been fully recognized and protected by a carefully considered notarial contract, before J. D. Taylor, notary; and water supply for the Fifth District provided for, without any increase of our annual expense of operation, and without any increase of the floating or bonded debt. With this I submit the annual reports of the Superintendent and Secretary for details in their departments.

Yours, respectfully,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1, 1896.

President and Board of Directors New Orleans Water Works Company:

Gentlemen—I beg to report the following

EXTENSIONS

since my last report:

In May, 1895—On St. Andrew street, from Magazine to Fulton street, 1845 feet six-inch pipe, 60 feet four-inch pipe, 2 six-inch valves or gates.

On Fulton street, from St. Andrew to Jackson avenue, 943 feet six-inch pipe, 30 feet four-inch pipe, 1 six-inch valve.

On Jackson avenue, from Fulton street to a point between Fulton and Chippewa streets, 147 feet six-inch pipe. (R. McNamara, contractor.)

In May, 1895—On Magazine, street from Foucher street to Napoleon avenue, 3176 feet eight-inch pipe, 195 feet four-inch pipe, three eight-inch valves. (R. McNamara, contractor.)

In June, 1895—On St. Mary street, from Old Camp to New Camp street, 230 feet six-inch pipe, 5 feet four-inch pipe, 1 six-inch valve. (J. N. Hazelhurst & Co., contractors.)

In June, 1895—On Perdido street from St. Charles to Baronne street, 762 feet six-inch pipe, 32 feet four-inch pipe, 2 six-inch valves. (Manion & Co., contractors.)

In June, 1895—On State street, St. Charles avenue to Howard street, 1706 feet six-inch pipe, 144 feet four-inch pipe, 1 six-inch valve. (J. N. Hazelhurst & Co., contractors.)

In July, 1895—On Ursulines avenue, Dorgenois to Broad street, 515 feet six-inch pipe, 59 feet four-inch pipe. (J. C. Burns, contractor.)

In July, 1895—On Ninth street, from St. Charles avenue to Prytania street, 519 feet six-inch pipe, 15 feet four-inch pipe, and 2 six-inch valves. (J. C. Burns, contrator.)

In July, 1895—On Henry Clay avenue, from St. Charles to Victor or Magnolia street, 2894 feet six inch pipe, 120 feet four-inch pipe, 2 six-inch valves. (J. C. Burns, contractor.)

In August, 1895—On Henry Clay avenue, from Pitt to Prytania street, 406 feet four-inch pipe. (J. N. Hazlehurst & Co., contractors.)

In August, 1895—On Claiborne street, from St. Bernard to Elysian Fields (wood's side), 2952 feet six-inch pipe.

On Elysian Fields, from Claiborne to St. Claude (upper side), 1817 feet eight-inch pipe.

On Spain, from Dauphine to Robertson street, 2554 feet eight-inch pipe.

On Robertson, from Marigny to Music street, 1440 feet six-inch pipe.

On Marigny, from Dauphine to Robertson street, 2552 feet eight-inch pipe.

On Villere, from Marigny to Spain street. 718 feet six-inch pipe.

On Urquhart, from Marigny to Spain street, 719 feet six-inch pipe.

On Rampart, from Marigny to Music street, 1432 feet six-inch pipe.

On Music, from Rampart to Robertson street, 1837 feet six-inch pipe.

On Port (or Lafayette avenue), from Dauphine to St. Claude street, 1228 feet eight-inch pipe.

On St. Ferdinand, from Dauphine to St. Claude street, 1228 feet eight-inch pipe.

On St. Claude, from Port to St. Ferdinand street, 309 feet six-inch pipe.

On Montegut, from Dauphine to Rampart street, 790 feet six-inch pipe.

On Clouet, from Dauphine to Rampart street, 790 feet six-inch pipe.

On Rampart, from Press to Clouet street, 908 feet six-inch pipe.

On Washington (or Port), from St. Claude to Robertson street, 1432 feet six-inch pipe.

On Burgundy, from Elysian Fields to Louisa street, 4464 feet six-inch pipe.

On Frenchmen, from Rampart to wood's side of Claiborne street, 37 valves or gates, 2150 feet six-inch pipe. (J. N. Hazlehurst & Co., contractors.)

In October, 1895—On Peters avenue, St. Charles avenue to Liberty street, 1802 feet six-inch pipe, 178 feet four-inch pipe, one six-inch valve. (R. McNamara, contractor.)

In October, 1895—Concluded following extensions:

On Race, from Camp to Coliseum street. On Coliseum, from Race to Louisiana avenue. On Louisiana avenue, from Coliseum to Chestnut. On Chestnut, from Louisiana avenue to State. On State, from Chestnut to St. Charles. On St. Charles avenue, from State to Carrollton avenue. On Peters avenue, from Chestnut to St. Charles. On Washington avenue, from St. Thomas to St. Charles. On Dufossat, from Chestnut to Perrier. On Marengo, from Chestnut towards St. Charles. On Berlin, from Chestnut towards St. Charles. The foregoing work involved 1681 feet of thirty-inch pipe, 4766 feet of twenty-four-inch pipe, 6105 feet of twenty-inch pipe, 7076 feet of eighteen-inch pipe, 6737 feet of twelve-inch pipe, 7200 feet of ten-inch pipe, 5824 feet of eight-inch pipe, 2665 feet of six-inch pipe, 539 feet of four-inch pipe, 112 valves. (Manion & Co., contractors.)

In October, 1895—On Marengo street, from Baronne to Dryades street, 402 feet three-inch pipe, 45 feet four-inch pipe. (R. McNamara, contractor.)

In November, 1895—In Audubon Park Place, 2914 feet six-inch pipe, 1332 feet four-inch pipe, 2 six-inch valves. (Jas. C. Burns, contractor).

In November, 1895—On Urania street, from Prytania street toward the river, 256 feet six-inch pipe, 14 feet four-inch pipe. (J. C. Burns, contractor.)

In November, 1895—On First street, from Baronne to Carondelet street, 366 feet six-inch pipe, 20 feet four-inch pipe, 1 six-inch valve. (Jas. C. Burns, contractor.)

In December, 1895—On Calhoun street, from St. Charles to Howard, and on Howard, Calhoun to State street, 2239 feet six-inch pipe, 55 feet four-inch pipe, 3 six-inch valves. (J. N. Hazlehurst & Co., contractors.)

In December, 1895—On Aline, from Magazine to Constance street. On Constance, from Aline to Delachaise. On Delachaise, from Constance to Magazine. Total 1023 feet six-inch pipe. 25 feet four-inch pipe, 2 six-inch valves. (J. N. Hazlehurst & Co., contractors.)

In December, 1895—In Rosa Park, 657 feet of six-inch pipe, 43 feet four-inch pipe, 1 six-inch valve. (Jas. C. Burns, contractor.)

In January, 1896—Carrollton avenue, from St. Charles avenue to Poplar street, 2900 feet ten-inch pipe, 90 feet four-inch pipe, 3 ten-inch valves. (Jas. C. Burns, contractor.)

In January, 1896—On Amelia street, from St. Charles to Baronne street, 765 feet six-inch pipe, 45 feet four-inch pipe, 1 six-inch valve. (R. McNamara, contractor.)

In January, 1896—On Valance street, St. Charles avenue to Dryades street, 1115 feet six-inch pipe, 63 feet four-inch pipe, 1 six-inch valve. (James C. Burns, contractor.)

In February, 1896—On Joseph street, from St. Charles avenue, to South Franklin street, 1262 feet six-inch pipe, 52 feet four-inch pipe, 1 six-inch valve. (James C. Burns, contractor).

In connection with the general subject of extensions, I would specially report as included in the foregoing, a large reinforcing main from the intersection of Race and Camp streets to Carrollton avenue, a distance of about eight miles. This was laid at

a cost of some seventy-three thousand dollars, not for revenue alone, but also to contribute to a better public and private service.

Total extensions since last report amount to 103,379 feet in detail, as follows:

Three-inch pipe	402 feet.
Four-inch pipe	3,567 feet.
Six-inch pipe	44,566 feet.
Eight-inch pipe	18,379 feet.
Ten-inch pipe	10,100 feet.
Twelve-inch pipe	6,737 feet.
Eighteen-inch pipe	7,076 feet.
Twenty-inch pipe	6,105 feet.
Twenty-four-inch pipe	4,766 feet.
Thirty-inch pipe	1,681 feet.

Total in miles, 19.58, against 12.38 miles in previous year Total in distribution to date 118.27 miles.

FIRE WELLS AND FIRE HYDRANTS.

At date of last report the number of these recognized by the Budget Committee of the City Council was 1416. This number was increased by 228, making a total of 1644, contemplated by the Budget of December, 1895. Since then, and up to date, there have been placed 31 hydrants. Total Fire Hydrants and wells to date, 1675.

SHOALING.

Notwithstanding the extension of intake pipes reported last year, a serious shoaling around them was observed in September, 1895. The trouble was remedied by the use of the screw of a tug boat.

CEMENT PIPE.

I think this is now entirely eliminated from your distribution. During the year it has been replaced by cast iron pipe, as follows:

Poydras street, from Basin to Howard street, 480 feet four-

inch pipe and 1 valve. Robertson street, between St. Ann and Dumaine streets, 72 feet six-inch pipe. On St. Ann street, 110 feet six-inch pipe.

PUMPING ENGINES.

The new Allis pumps continue to give good service. The Knowles pump has not been called into requisition during the year except for a few hours. The main engine, as we call it, or the beam engine, should now be in order for operation as remodeled by the Allis Company, of Milwaukee. Their contract promised a completion of the work in six months. Nearly a year has elapsed and the work is still unfinished. It is fortunate, under the circumstances, that nothing has befallen the Allis pumps. Completion of the work is promised for May 1st. proximo.

In this connection I would say that my report for 1893 showed a consumption of 40,769 barrels of coal. My report now submitted for the past year, shows, as per engine record, a consumption of 19,859 barrels. At current prices for the best quality of coal the showing is an economy of some $6,500 per annum in coal only. This is due to your improved type of pumping machinery, aided by the Hawley down-draft furnace attachment.

I herewith hand you detailed report of work done during the year by the Street Department, and inventory of pipes, etc., on hand for extensions and repairs.

As usual, the inventory of tools and materials on hand at the pumping station and in the foreman's shop has been made and on file in the office.

Respectfully submitted,

L. H. GARDNER,

Superintendent.

ENGINE RECORD, MARCH 29, 1895, TO MARCH 29, 1896.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Pounds of water evaporated with 1 lb of coal average	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate of Engine.	Gallons Oil	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total								
1895													
April	150,755,112	89	861			72,266,377	973						
	122,083,631	89	802	22	1,685	62,900,270	847		6.	9 ft. 4 in	138	115	272,838,743
May	153,947,047	89	800			79,332,918	1,068						
	117,173,333	89	698		1,498	69,301,257	933		5.75	12 ft. 8 in	137	93	271,120,380
June	148,400,669	90	789			78,498,620	1,045						
	128,624,496	90	746		1,535	71,887,972	957		5.50	14 ft. 2 in	134	90	277,025,165
July	161,828,981	90	853			79,029 819	1,053						
	134,477,343	90	776		1,629	72,047,604	963		5.75	14 ft.... in	137	76	286,306,324
August	162,019,687	89	937			71,286,668	960						
	133,408,298	89	799	15	1,751	68,862,060	926		6.	14 ft.... in	135	70	285,427,985
September	169,140,317	90	878			89,167,528	1,069						
	152,977,455	90	858	10	1,746	83,387,710	990		6.	14 ft. 9 in	137	73	322,117,772
October	206,565,906	92	1,104			79,738,101	1,039						
	165,562,320	92	908	52	2,064	77,695,476	1,012		5.50	15 ft. 7 in	150	81	372,128,226
November	172,450,458	92	947			77,560,250	947						
	144,591,185	92	847		1,794	72,796,538	847		6.	16 ft.... in	136	76	317,041,643
December	174,144,261	92	968			76,703,448	968						
	151,769,517	92	897		1,865	72,105,086	897		9.	15 ft. 10 in	140	77	325,913,778
Jany. 1896	143,558,777	88	792			73,834,378	1,006						
	125,462,182	88	738	19	1,549	69,219,251	943		8.	11 ft.... in	118	83	269,020,959
February	130,068,939	86	717			72,211,026	1,006						
	112,357,476	86	678	4	1,399	66,031,045	920		8.	9 ft. 6 in	112	73	242,426,415
March 1–29	120,788,514	85	681			69,956,680							
	109,511,557	85	663		1,344	65,010,670	950		6.	9 ft. 1 in	111	74	230,300,071
Totals	3,491,667,461		19,737	122	19,859			8.50			1585	981	3,491,667,461

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	754	
Holly	709	
Underground or flush	121	
Mathew	45	
Iron case	35	
Boston	3	
Fire wells	82	1749
Main stop cocks or gates		961

DISTRIBUTION—CAST IRON PIPES.

3-inch	40,252 ft.	10-inch	38,084 ft.	20-inch	8,405 ft.
4-inch	87,020 ft.	12-inch	15,112 ft.	24-inch	7,166 ft.
6-inch	217,050 ft.	16-inch	21,175 ft.	30-inch	17,781 ft.
8-inch	145,376 ft.	18-inch	23,476 ft.	36-inch	3,600 ft.

Or say, 118.27 miles.

MEAN TEMPERATURE AND RAIN FALL IN NEW ORLEANS FOR PAST TWELVE YEARS.

MEAN TEMPERATURE.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
Jan..	47	52	39	51	50	51	65	58	49	50	58	52	52
Feb ..	61	53	42	65	50	52	64	62	61	61	55	58	56
Mar..	65	58	58	62	60	58	62	61	59	61	61	62	61
Apr..	68	70	65	68	70	70	70	68	69	72	70	68	...
May	76	74	72	75	73	74	74	7s	74	76	75	74	...
June	79	82	79	78	77	78	80	81	79	80	78	80	...
July..	85	83	80	80	81	83	81	81	80	83	79	82	...
Aug..	82	75	81	81	75	81	80	81	82	82	80	82	...
Sept.	81	72	78	77	75	79	77	78	77	80	80	82	...
Oct....	74	56	69	69	68	70	69	68	71	69	71	69	...
Nov..	60	51	59	61	62	59	64	60	62	60	60	60	..
Dec..	50	46	51	53	51	64	56	56	56	58	58	54	...

RAIN FALL.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
Jan..	4.35	9.70	7.58	4.26	3.29	6.51	.60	3.75	5.87	2.50	1.76	7 19	2.33
Feb ..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.12	0.04	4.92	11.06	3 92	2.78
Mar..	8 24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3 49	5.94	3 81	5.29
Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	3.70	4 71	2.58	.....
May..	4.33	5.77	3.07	3.09	9.75	1.17	5.32	.76	2.62	2.06	1.79	7.95	.....
June	8 60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	5.30	5.19	9.74	.....
July..	4.12	6.15	4.35	7.85	2.04	9.13	6.59	4.57	7.46	3 72	11.51	6.07	.....
Aug..	.87	4.25	2.40	7.42	22.74	5.59	3.62	1.69	6 96	4.56	7.32	6.79	.....
Sept.	3. 12	13.55	4.09	6.51	4.15	6.40	2.85	3.48	6.33	4.38	.92	1.97	.....
Oct ...	5.60	.50	.22	4.71	7.36	.26	5.24	2.38	2.14	4.24	.89	1.21	.....
Nov .	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	3.55	6.24	1.34	0.09	.....
Dec...	8 01	4.38	2.57	7.56	3.68	.67	2.58	3.03	1.22	2.31	2.01	4.52	.....

4189

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

21 3 inch quarter bends.
3 4 inch quarter bends.
21 6 inch quarter bends.
21 8 inch quarter bends.
2 10 inch quarter bends.
14 3 inch eighth bends.
19 4 inch eighth bends.
31 6 inch eighth bends.
20 8 inch eighth bends.
3 10 inch eighth bends.
2 30 inch eighth bends.

THREE WAY BRANCHES.

7 pieces 3 x 3 (1 with 3 bells).
15 pieces 4 x 3 (3 with 3 bells).
11 pieces 4 x 4.
11 pieces 6 x 3.
23 pieces 6 x 4.
13 pieces 6 x 6.
13 pieces 8 x 3 (2 with 3 bells).
27 pieces 8 x 4.
8 pieces 8 x 6 (1 with 3 bells).
25 pieces 8 x 8.
3 pieces 10 x 3.
22 pieces 10 x 4.
14 pieces 10 x 6 (1 with 3 bells).
2 pieces 10 x 8.
2 pieces 10 x 10.
6 pieces 12 x 6.
2 pieces 12 x 8 (3 bells).
1 piece 16 x 8.
1 piece 30 x 6.
5 pieces 30 x 12 (3 bells).

FOUR WAY BRANCHES.

9 pieces 9 x 3.
10 pieces 4 x 3.
28 pieces 4 x 4 (9 with 4 bells).

Four Way Branches—Continued.

19 pieces 6 x 3.
24 pieces 6 x 4.
29 pieces 6 x 6 (6 with 4 bells).
10 pieces 8 x 3.
11 pieces 8 x 4.
22 pieces 8 x 6 (1 with 4 bells).
21 pieces 8 x 8 (1 with 4 bells).
8 pieces 10 x 3.
13 pieces 10 x 4.
14 pieces 10 x 6.
8 pieces 10 x 8.
4 pieces 12 x 6.
4 pieces 16 x 6.
5 pieces 16 x 8.
1 piece 16 x 12.
1 piece 20 x 8.
1 piece 20 x 12.
1 piece 30 x 8.

Cast Iron Plugs.

2 8 inch.
1 16 inch.
1 30 inch.
74 pieces 3-inch pipe, 12 feet long.
84 pieces 4 inch pipe, 12 feet long.
84 pieces 6 inch pipe, 12 feet long.
104 pieces 8 inch pipe, 12 feet long.
25 pieces 10 inch pipe, 12 feet long.
12 pieces 12 inch pipe, 12 feet long.
6 pieces 16 inch pipe, 12 feet long.
5 pieces 18 inch pipe, 12 feet long.
3 pieces 20 inch pipe, 12 feet long.
5 pieces 24 inch pipe, 12 feet long.
22 pieces 30 inch pipe, 12 feet long.
13 pieces 36 inch pipe, 12 feet long.
2 pieces 48 inch pipe, 12 feet long.
60 feet of 4 inch pipe, in 6 pieces.
31 feet of 8 inch pipe, in 3 pieces.

41893

CAST IRON PLUGS—Continued.

9 feet of 16 inch pipe, in 2 pieces, 5 and 4 feet.
4 feet of 18 inch pipe, in 1 piece.
4 feet of 20 inch pipe, in 1 piece.
11 feet of 24 inch pipe, in 2 pieces, 8 and 3 feet.
9 feet of 30 inch pipe, in 1 piece, with bell.
8 feet of 30 inch pipe, in 1 piece.
5½ feet of 30 inch pipe, in 1 piece.
4 feet of 36 inch pipe, in 1 piece, with bell.
5 feet of 36 inch pipe, in 1 piece, with bell.

REDUCERS.

4 4 to 3 inch reducers.
1 6 to 3 inch reducer.
28 6 to 4 inch reducers.
5 8 to 3 inch reducers.
7 8 to 4 inch reducers.
13 8 to 6 inch reducers.
1 12 to 6 inch reducer.
2 12 to 8 inch reducers.
1 12 to 10 inch reducer.
1 16 to 12 inch reducer.
1 18 to 16 inch reducer.
1 20 to 12 inch reducer.

SLEEVES.

24 3 inch sleeves, 18 inches long.
24 4 inch sleeves, 18 inches long.
28 6 inch sleeves, 18 inches long.
39 8 inch sleeves, 18 inches long.
10 10 inch sleeves, 18 inches long.
2 10 inch sleeves, 10 inches long.
11 12 inch sleeves, 18 inches long.
1 16 inch sleeve, 12 inches long.
10 16 inch sleeves, 18 inches long.
1 16 inch sleeve, 26 inches long.
2 18 inch sleeves, 15 inches long.
10 18 inch sleeves, 18 inches long.
1 24 inch sleeve, 18 inches long.
2 30 inch sleeves, 16 inches long.
1 30 inch sleeve, 25 inches long.
2 36 inch sleeves, 15 inches long.

Valves.

4 3 inch Chapman valves.
1 3 inch Ludlow valve.
30 4 inch Chapman valves.
18 6 inch Chapman valves.
1 6 inch Chapman valve with flanges.
17 8 inch Chapman valves.
1 8 inch Rensselaer valve.
1 8 inch Eddy valve.
8 10 inch Chapman valves.
1 10 inch R. D. Wood valve.

Various.

30 Morgan stop cocks, casings complete 2.5 to 3.5 feet.
1 Morgan stop cock, casings complete 2 to 2.5 feet.
17 Covers for Morgan stop cock cases.
8 Double Holly fire hydrants.
11 Single Holly fire hydrants.
47 Jackets for double fire hydrants.
37 Jackets for single Holly fire hydrants.
24 Wrought iron rods for Holly fire hydrants, 5 feet long.
2 Wrought iron rods for Holly fire hydrants, 3 feet long.
20 12 inch extensions for double Holly fire hydrants.
22 15 inch extensions for double Holly fire hydrants.
28 18 inch extensions for double Holly fire hydrants.
31 24 inch extensions for double Holly fire hydrants.

For Single Holly Fire Hydrants.

13 12 inch extensions.
20 15 inch extensions.
14 18 inch extensions.
10 24 inch extensions.

Cypress Plugs.

7 3 inch straight cypress plugs.
5 4 inch straight cypress plugs.
1 6 inch straight cypress plug.
16 8 inch straight cypress plugs.
1 3 inch taper cypress plug.
2 4 inch taper cypress plugs.
5 6 inch taper cypress plugs.

CYPRESS PLUGS—Continued.

13 8 inch taper cypress plugs.
19 10 inch taper cypress plugs.
221 pigs of lead, at 85 lbs. per pig.

MATERIALS USED FOR REPAIRS TO WOODEN CASED FIRE HYDRANTS.

517 Leaking wood-encased fire hydrants.
2 Broken wooden-cased fire hydrants, replaced with new ones.
3 Wooden-cased fire hydrants removed and replaced with Holly.
81 Wrought iron rods.
81 Wrought iron screws and clamps.
162 Wrought iron stirrups and nuts.
81 Wrought iron buttons.
162 Wrought iron slats.
162 Wrought iron keys to fasten screw clamps.
20 Wrought iron top bands for repairs to cases.
25 Wrought iron middle bands for repairs to cases.
50 Wrought iron bottom bands for repairs to cases.
25 Wrought iron hooks for top staves for repairs to cases.
81 Cast iron valve flanges, small.
81 Cast iron valve flanges, large.
5 Cast iron covers, with hinges.
25 Brass nozzles to replace broken ones.
95 Bent nozzles, straightened and filed.
106 Cypress cases and covers with hinge.
24 Cypress top staves for repairing old cases.
20 Cypress bottom staves for repairing old cases.
5 Cypress back staves for repairing old cases.
81 Gum valves.
81 Joints.
517 Joints caulked.
517 Packings renewed.
72 ¾ inch bolts and nuts.
486 Pounds pig lead.
50 Pounds hemp packing yarn.
200 Pounds coal.

Materials Used for Repairing Philadelphia Fire Hydrants.

22 Leaking Philadelphia fire hydrants repaired.
1 Removed Philadelphia fire hydrant and replaced with wooden-cased fire hydrant.
10 Wrought iron rods.
10 Wrought iron screws and clamps.
10 Wrought iron stirrups and nuts.
20 Wrought iron buttons.
40 Wrought iron slats.
40 Wrought iron keys to fasten clamps.
10 Cast iron valve flanges, small.
10 Cast iron valve flanges, large.
3 Cast iron cases with hinges.
4 Cast iron cases with hooks.
5 Cast iron covers with hooks.
5 Brass Nozzles to replace broken ones.
2 Brass packing boxes to replace broken ones.
10 Bent nozzles straightened and filed.
10 Gum valves.
10 Lead joints.
22 Joints caulked.
22 Packings renewed.
80 Pounds pig lead.
20 Pounds hemp packing yarn.
200 Pounds coal.

Materials Used for Repairing Underground Fire Hydrants.

32 Leaking underground fire hydrants repaired.
1 Underground fire hydrant removed to place Holly fire hydrant.
20 Copper rods.
10 Wrought iron rods.
30 Wrought iron screws with brass nuts.
60 Wrought iron stirrups and nuts.
30 Wrought iron buttons.
60 Wrought iron slats.
30 Cast iron valve flanges, small.

MATERIALS USED FOR REPAIRING UNDERGROUND FIRE HYDRANTS—Continued.

30 Cast iron valve flanges, large.
4 Cast iron frames and covers.
2 Boiler iron covers.
5 Brass nozzles to replace broken ones.
7 Bent nozzles straightened and filed.
30 Brass nuts for screws.
12 Cypress cases.
30 Gum valves.
30 Joints.
32 Joints caulked.
32 Packings renewed.
180 Pounds pig lead.
20 Pounds hemp packing yarn.
200 Pounds coal.

MATERIALS USED FOR REPAIRS TO HOLLY FIRE HYDRANTS.

344 Leaking Holly fire hydrants repaired.
4 Broken Holly fire hydrants replaced with new ones.
9 Holly fire hydrants removed where banquet was widened to curb stone.
17 Holly fire hydrants raised where nozzles were too low.
344 Wrought iron screws covered with brass.
2 Wrought iron rods.
344 Cast iron valves.
344 Cast iron valve seats.
40 Cast iron tap covers.
2 Cast iron frost jackets.
21 Cast iron extensions, one foot long each.
30 Brass glands or packing-box caps.
12 Brass nozzles to replace broken ones.
65 Bent brass nozzles straightened and filed.
144 New gum valves.
12 Feet 4 inch pipe.
60 ½ inch tap bolts.
84 ¾ inch stub bolts and nuts.
40 ⅝ inch machine bolts and nuts.
14 Lead joints.
344 Joints caulked.

MATERIALS USED FOR REPAIRS TO HOLLY FIRE HYDRANTS—Continued.

344 Packings renewed.
125 Pounds gum packing.
112 Pounds pig lead.
40 Pounds hemp packing yarn.
200 Pounds coal.

DRILLING HOLES ON 18 INCH PIPE FOR 6 INCH SADDLE ON STATE STREET, TO PLACE HOLLY FIRE PLUG ON MAIN PIPE.

1 Six inch saddle.
8 ¾ inch machine bolts and nuts.
10 Pounds gum packing.

MATERIALS USED FOR REPAIRS TO MATHEW FIRE HYDRANTS.

7 Leaking Mathew fire hydrants repaired.
7 Broken Mathew fire hydrants removed, replaced with Holly fire hydrants.
4 Hollow brass nuts.
3 Cast iron top nuts.
7 Joints caulked.
7 Packings renewed.
2 Leaking Boston fire hydrants repaired.
2 Broken Boston fire hydrants removed, replaced with Holly fire hydrants.
2 Gum valves.
2 Joints caulked.
2 Packings renewed.

DRILLING MAIN FOR PLUMBERS AND REPAIRS FOR PRIVATE PERSONS.

57 ½ inch ferrules.
222 ¾ inch ferrules.
145 ¾ inch ferrules.
424 Holes drilled.
10 Holes drilled for old services on new extensions.
32 Closing main stop cocks for repairs to service pipes.
1 1½ inch cast iron pipe repaired.
5 Leaks repaired for contractors.
7 Broken main pipes repaired for Sewerage Company.

DRILLING MAIN FOR PLUMBERS AND REPAIRS FOR PRIVATE PERSONS—Continued.

2 3 inch Chapman valves placed for Traction Company.
1 4 inch Chapman valve placed for New Orleans Ice Manufacturing Co.
1 6 inch Chapman valve placed for Traction Company.
1 10 inch Chapman valve placed for Traction Company.
1 4 inch Chapman valve iron screw for elevator.
1 6 inch Chapman valve iron screw for Bodley Wagon Co.
1 Wooden-cased fire plug removed and replaced by Holly fire plug.
1 Double nozzle fire hydrant.
1 Wooden-cased fire hydrant removed for St. Charles R. R. Co.
1 Philadelphia fire hydrant removed for Traction Company.
1 Repairing wooden-cased fire hydrant for M. V. R. R.
1 Wrought iron rod.
1 Wrought iron screw and clamp.
2 Wrought iron stirrups and nuts.
1 Wrought iron button.
2 Wrought iron slats.
1 Cast iron valve flange, small.
1 Cast iron valve flange, large.
48 feet 3 inch pipe.
105 feet 4 inch pipe.
30 feet 6 inch pipe.
3 feet 10 inch pipe.
5 3 inch sleeves.
5 4 inch sleeves.
1 10 inch sleeves.
2 4 inch ⅛ bends.
2 Wooden cases for main stop cocks.
1 Repairing single nozzle Holly fire hydrant broken by a coal cart.
1 Frost jacket.
200 Pounds pig lead.
30 Pounds hemp packing yarn.
250 Pounds coal.

MATERIAL USED TO RAISE FIRE WELLS TO NEW GRADE OF STREETS.

3	Raised to new pavement.
300	Bricks.
1	Barrel cement.
1	Barrel sand.
1	Wrought ring, diameter 20 inches, depth 2 inches.
2	Large cast iron covers.
3	Fire wells lowered to grade of pavement.
1	Eight inch Chapman valve for old fire well.
2	Wrought iron keys for old fire wells.
30	Raising fire well stop cocks frames and covers.
60	Wooden frames.
12	Wooden cases.
60	Leaking fire well stop cocks repaired.
120	Packing box bolts and nuts.
60	Repacked.
120	Joints caulked.

FIRE WELLS COMPLETED AND MATERIALS USED.

7	6 x 6 inch three way branches.
5	8 x 6 inch three way branches.
2	10 x 6 inch three way branches.
1	6 x 3 inch reducing pipe.
4	6 inch saddles for 16 inch pipe.
2	6 inch saddles for 30 inch pipe.
1	3 inch sleeve.
7	6 inch sleeves.
5	8 inch sleeves.
2	10 inch sleeves.
5	6 inch ⅛ bends.
3	6 inch ¼ bends.
21	6 inch ¼ bends flanged.
21	6 inch Chapman valves flanged.
84	Feet 6 inch pipe flanged.
38	Feet 6 inch pipe.
16	Feet 8 inch pipe.
256	⅝ inch machine bolts and nuts.
21	Brick wells.
21	Large cast iron covers.

FIRE WELLS COMPLETED AND MATERIALS USED—Continued.

21 Wrought iron keys for inside of fire wells.
320 Pounds gum packing.
1600 Pounds pig lead.
225 Pounds hemp packing yarn.
1680 Pounds coal.

BROKEN MATHEW FIRE HYDRANTS REPLACED WITH HOLLY FIRE HYDRANTS.

Customhouse, between Dauphine and Burgundy streets, double nozzle Holly fire plug.
Toledano and Coliseum streets, double nozzle Holly fire plug.
St. Charles, between Third and Fourth streets, double nozzle Holly fire plug.
St. Andrew and Chestnut streets, double nozzle Holly fire plug.
St. Andrew, near Camp street, double nozzle Holly fire plug.
Willow and Calliope streets, double nozzle Holly fire plug.
St. Philip, between Decatur and Chartres streets, double nozzle Holly fire plug.

WOODEN-CASED HYDRANTS REMOVED AND REPLACED WITH HOLLY FIRE HYDRANTS.

Gravier, between Carondelet and St. Charles streets, Holly fire hydrant.
Common, between Carondelet and St. Charles streets, Holly fire hydrant.
Corner Carondelet and Common streets, Holly fire hydrant.

UNDERGROUND FIRE HYDRANTS REMOVED, REPLACED WITH HOLLY FIRE HYDRANT.

Common, between Liberty and Howard streets.

BROKEN BOSTON FIRE HYDRANTS REMOVED AND REPLACED WITH HOLLY FIRE HYDRANTS.

Derbigny, between St. Ann and Dumaine streets.
St. Philip, between Claiborne and Derbigny streets.
Philadelphia fire hydrant removed and replaced with a wooden-cased fire hydrant.

MATERIALS USED FOR CHANGING FIRE HYDRANTS, AS ABOVE.

1 4 x 3 inch reducing pipe.
12 Feet 3 inch pipe.
83 Feet 4 inch pipe.
8 ¾ inch tap bolts.
2 Extensions, 1 foot long each.
10 Pounds gum packing.
252 Pounds pig lead.
55 Pounds hemp packing yarn.
460 Pounds coal.

PLACING HOLLY FIRE HYDRANTS ON EXISTING MAINS, AS FOLLOWS:

Ursulines, corner Claiborne street, river side.
Ursulines, corner Claiborne street, wood side.
Ursulines, between Claiborne and Derbigny streets, upper side.
Ursulines, corner Derbigny street, lower and wood side.
Ursulines, between Roman and Prieur streets, lower and wood side.
Ursulines, between Prieur and Johnson streets, lower side.
Ursulines, between Johnson and Galvez streets, lower side.
Ursulines, between Galvez and Miro streets, lower side.
Ursulines, between Miro and Tonti streets, lower side.
Ursulines, between Tonti and Rocheblave streets, upper side.
Ursulines, between Rocheblave and Dorgenois streets, upper side.
St. Philip, between Galvez and Miro streets, lower side.
St. Philip, between Tonti and Miro streets, lower side.
Bayou Road, corner Claiborne street, lower and wood side.
Bayou Road, corner Roman street, upper and wood side.
Claiborne, corner Lapeyrouze street, upper and wood side.
Poet, corner St. Claude street, lower and river side.
Miro, corner Kerlerec street, lower and wood side.
Derbigny and Dumaine streets, lower and wood side.
St. Louis, corner Derbigny street, lower and wood side.
Derbigny, corner Canal street, lower and wood side.

PLACING HOLLY FIRE HYDRANTS ON EXISTING MAINS, AS FOLLOWS—Continued.

Derbigny, corner Customhouse street, lower and river side.
Canal, corner Roman street, lower and wood side.
Canal, corner Claiborne street, lower and wood side.
Canal, corner Villere street, lower and river side.
Canal, corner Liberty street, lower and wood side.
Liberty, corner Customhouse street, lower and wood side.
Liberty, corner Bienville street, lower and river side.
Liberty, corner Conti street, upper and wood's side.
Roman, corner Bienville street, upper and wood's side.
Union, corner Rampart street, lower and wood's side.
Howard, between Gasquet and Canal streets, river side.
Customhouse and Galvez streets, lower wood's side.
Chippewa, between Race and Orange streets, river side.
Magazine, between Second and Third streets, wood's side.
Magazine, between Harmony and Pleasant streets, river side.
St. Charles, between Harmony and Eighth streets, wood's side.
St. Charles, corner Webster street, wood's and lower corner.
Prytania, between Harmony and Ninth streets, lower and river side.
Jackson, corner Fulton street, lower and wood's side.
Chestnut, corner Josephine street, lower and wood's side.
Philip, corner Camp street, upper and wood's side.
South Peters, corner St. James street, lower and wood's side.
St. Thomas, corner Thalia, river and lower side.

MATERIALS USED FOR PLACING HOLLY FIRE HYDRANTS, AS ABOVE.

2 3 x 3 inch three way branch.
7 4 x 4 inch three way branch.
20 6 x 4 inch three way branch.
14 8 x 4 inch three way branch.
1 10 x 4 inch three way branch.
1 8 x 6 inch reducing pipe.
1 8 inch saddle for 36 inch pipe.
2 3 inch sleeves.
7 4 inch sleeves.
20 6 inch sleeves.

MATERIALS USED FOR PLACING HOLLY FIRE HYDRANTS, AS ABOVE—Continued.

14 8 inch sleeves.
1 10 inch sleeve.
1 6 inch Chapman valve.
18 Feet 3 inch pipe.
884 Feet 4 inch pipe.
180 Feet 6 inch pipe.
28 ⅝ inch tap bolts.
5 Single nozzle Holly fire hydrants.
39 Double nozzle Holly fire hydrants.
7 Extensions, 1 foot long each.
1 Morgan frame and cover.
35 Pounds gum packing.
2072 Pounds pig lead.
315 Pounds Hemp packing yarn.
2515 Pounds coal.
15 Plugs blowed out of ends of branches on main pipes.
2 3 inch cypress plugs used.
2 4 inch cypress plugs used.
7 5 inch cypress plugs used.
4 8 inch cypress plugs used.
1 30 inch cast iron plug placed back on 30 inch pipe.
1 30 inch ¼ bend placed back and separated from main.
1 30 inch wrought iron band.
1 33 inch wrought iron band.
3 1 inch bolts and nuts 20 inches long.
12 ¾ inch bolts and nuts.
600 Feet 12 x 8 inch lumber.
46 Broken main pipes repaired with new pipes.
1 Broken cement pipe repaired with new 6 inch pipe, on Robertson, between St. Ann and Dumaine streets.
72 Feet 3 inch pipe.
144 Feet 4 inch pipe.
216 Feet 6 inch pipe.
96 Feet 8 inch pipe.
84 Feet 10 inch pipe.
12 Feet 12 inch pipe.
6 3 inch sleeees.
12 4 inch sleeves.

MATERIAS USED FOR PLACING HOLLY FIRE HYDRANTS, AS ABOVE—Continued.

13 6 inch sleeves.
8 8 inch sleeves.
7 10 inch sleeves.
1 12 inch sleeve.
1 ½ inch ferrule placed where broken.
2 ⅝ inch ferrule placed where broken.
1 ¾ inch ferrule placed where broken.
1695 Pounds pig lead.
125 Pounds hemp packing yarn.

MATERIALS USED TO REPLACE BROKEN MAIN GATES.

15 Broken main gates replaced with new ones.
1 3 inch Chapman valve.
6 6 inch Chapman valves.
7 8 inch Chapman valves.
1 10 inch Chapman valve.
33 New screws furnished for main gates.
3 3 inch Thompson & West iron screws.
5 4 inch Thompson & West iron screws.
6 6 inch Thompson & West iron screws.
5 8 inch Thompson & West iron screws.
7 10 inch Thompson & West iron screws.
1 18 inch Thompson & West iron screw.
2 8 inch Boston double thread iron screws for fire wells.
1 8 inch Boston double thread brass screw for fire well.
1 6 inch Chapman iron screw.
277 Leaking main gates repaired.
107 Raising frames and covers to level of streets.
20 Ditchings for main gates covered over.
4 Feet 3 inch pipe.
24 Feet 6 inch pipe.
28 Feet 8 inch pipe.
4 Feet 10 inch pipe.
1 3 inch sleeve.
6 6 inch sleeves.
7 8 inch sleeves.
1 10 inch sleeve.
264 ⅝ inch bolts and nuts.
554 New packing box bolts and nuts.

MATERIALS USED TO REPLACE BROKEN MAIN GATES—Continued.

277 Packings renewed.
554 Joints caulked.
32 Wooden cases.
546 Wooden frames.
10 Cast iron frames and covers.
6 Morgan frames and covers.
2 Wrought iron bands for main gates.
300 Pounds pig lead.
20 Pounds packing yarn.
400 Pounds coal.

GENERAL WORK.

733 Leaks repaired on main pipes, from 3 inch to 20 inch.
41 Leaks repaired on 30 inch main pipe.
2 Leaks repaired on 36 inch main pipe.
6 Leaks repaired on cement pipe.
1 Wrought iron band, 9 inches diameter.
1 Wrought iron band, 6 inches diameter.
8 $\frac{3}{4}$ inch bolts and nuts, 18 inches long.
12 Yards rubber cloth.
30 Pounds tarred marlin.
25 Pounds white lead.
9 Service pipes cut and plugged.
28 Ferrules drawn from main pipe.
1 Ditching for service stop cock and found.
20 Main stop cocks closed for contractors.
7365 Yards stone pavement repaired.
2145 Yards flagging pavement repaired.
1617 Yards brick pavement repaired.
60 $\frac{6}{10}$ Yards asphalt pavement repaired.
75 Yards Schillenger pavement repaired.
3 $\frac{7}{10}$ Cubic yards concrete pavement repaired.
(This pavement for all the work done.)

MATERIALS ON HAND IN WORKSHOP FOR STREET SERVICE REPAIRS FOR HOLLY FIRE HYDRANTS.

65 Wrought iron screws covered with brass.
45 Cast iron valves for single nozzles.
45 Cast iron valve seats for single nozzles.
51 Cast iron valves for double nozzles.
51 Cast iron vaive seats for double nozzles.

MATERIALS ON HAND IN WORKSHOP FOR STREET SERVICE REPAIRS FOR HOLLY FIRE HYDRANTS—Continued.

8 Cast iron frost jackets for single nozzles.
7 Cast iron frost jackets for double nozzles.
28 Cast iron extensions for single nozzle fire hydrants.
25 Cast iron extensions for double nozzle fire hydrants.
54 Cast iron covers for single nozzle fire hydrants.
65 Cast iron covers for double nozzle fire hydrants.
137 Cast iron ferrules to cover screws.
125 Brass glands for packing boxes.
25 Brass nozzles.
168 ½ inch taps for extensions.
400 ½ inch stud bolts and nuts for top covers.
40 ⅝ inch tee-head bolts and nuts for frost jackets.

FOR MATHEW FIRE HYDRANTS.

34 Brass hollow screws.
48 Gum valves for both Mathew and Boston fire hydrants.

MATERIALS IN WORK-SHOP

FOR REPAIRS TO WOODEN-CASED, GROUND, AND PHILADELPHIA FIRE PLUGS.

4 Wooden cased fire hydrants, in good repair.
5 Wooden-cased fire hydrants, not in good repair.
3 Philadelphia iron-cased fire hydrants, in good repair.
3 Philadelphia iron-cased fire hydrants, not in repair.
4 Underground fire hydrants, in good repair,
4 Underground fire hydrants, not in repair.
4 Philadelphia covers for iron-cased fire hydrants in good repair.
4 Philadelphia covers for iron-cased fire hydrants, not in good repair.
4 Philadelphia Iron cases for fire hydrants, not in repair.
3 Underground fire hydrants, frames and covers, in good repair.
50 Wrought iron rods for wooden-cased fire hydrants.
26 Wrought iron rods for Philadelphia iron-cased fire hydrants.
10 Wrought iron rods for underground fire hydrants.
12 Copper rods for underground fire hydrants.
4 Wrought iron screws, with clamps.

MATERIAL IN WORKSHOP FOR REPAIRS TO WOODEN-CASED, GROUND, AND PHILADELPHIA FIRE PLUGS—Continued.

42 Wrought iron screws, without clamps.
75 Wrought iron buttons.
400 Wrought iron slats.
185 Wrought iron keys, to fasten clamps.
75 Wrought iron middle bands, for wooden cases.
275 Wrought iron bottom bands, for wooden cases.
50 Wrought iron hooks, for wooden cases.
4 3 inch goose necks.
3 4 inch goose necks.
98 Cast iron valve flanges, small.
56 Cast iron valve flanges, large.
5 Cypress cases, for fire hydrant.
6 Cypress cases, for underground fire hydrants.
154 Gum valves.
94 Brass nozzles.
258 Cypress staves, for fire hydrant cases.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS IN WORKSHOP.

11 3 inch Thompson & West iron screws for M. S. C.
16 4 inch Thompson & West iron screws.
12 6 inch Thompson & West iron screws.
13 8 inch Thompson & West iron screws.
8 10 inch Thompson & West iron screws.
20 12 inch Thompson & West iron screws.
13 16 inch Thompson & West iron screws.
12 18 inch Thompson & West iron screws.

WHITTIER OR BOSTON IRON SCREWS.

12 6 inch iron screws.
12 8 inch iron screws.
12 10 inch iron screws.
12 12 inch iron screws.
12 20 inch iron screws.

EDDY OR R. D. WOODS' IRON SCREWS FOR MAIN STOP COCKS.

24 6 inch iron screws.
22 8 inch iron screws.
7 10 inch iron screws.
3 12 inch iron screws.

CHAPMAN IRON SCREWS FOR MAIN STOP COCKS.

12 3 inch iron screws for main stop cocks.
13 4 inch iron screws for main stop cocks.
15 6 inch iron screws for main stop cocks.
15 8 inch iron screws for main stop cocks.
75 Ludlow or Boston iron screws for main stop cocks.
8 6 inch iron screws for main stop cocks.
9 8 inch iron screws for main stop cocks.
47 Unfinished cast iron glands, from 3 to 12 inch, for main gates.
37 Unfinished cast iron glands, from 16 to 18 inch, for main gates.
115 Finished cast iron glands, from 3 to 8 inch, main gates.
42 Packing box bolts and nuts.
75 ½ inch packing box bolts for Woods' main gates.
215 ¾ inch machine bolts and nuts.
2 Wooden cases for main gates.
12 Wooden frames for main gates.

MATERIALS IN YARD OF WORKSHOP FOR STREET SERVICE REPAIRS.

1 3 inch pipe.
1 4 inch pipe.
6 6 inch pipes.
2 8 inch pipes.
1 10 inch pipe.
1 4 inch sleeve.
2 6 inch sleeves.
2 8 inch sleeves.
2 10 inch sleeves.
1 6 inch ¼ bend.
1 6 inch Chapman valve flanged for fire well.
1 6 inch saddle for 16 inch main pipe.
1 2 to 4 inch tapering plugs for ends of main pipe.
5 4 to 7 inch tapering plugs for ends of main pipes.
1 5 to 10 inch tapering plugs for ends of main pipes.
72 Pounds ⅝ inch washers.
26 Pounds ½ inch mixed gum packing.
45 Pounds ½ inch pure gum packing.
1350 Pounds tarred hemp packing yarn.
80 Pounds pig lead.
425 Pounds white lead.

MATERIALS ON HAND IN WORKSHOP FOR STREET SERVICE CONNECTIONS.

47 ½ inch ferrules.
50 ⅝ inch ferrules.
38 ¾ inch ferrules.

CASH RECEIPTS YEAR ENDING MARCH 27, 1896.

Cash on hand March 30, 1895			$ 7,547 05
Received from water rates			230.798 59
Received from materials and fixtures sold	$ 1,770 73		
Received from street service repairs	1,577 68		
Received from improvements and extensions for material sold and labor	3,340 06		
Received for plumbers' licenses	82 50		
Received from Algiers Water Company	$100 00		
Less notaries' fees and copy contract	54 00		
	46 00		
Received for sale horse and buggy	$100 00		
Less amount credited to miscellaneous	48 20	51 80	
			6,868 77
Received from second mortgage bonds delivered	$125,000 00		
And accrued interest	1,510 42		
			126,510 42
Received from bills payable (demand note)			90,000 00
Received from sundry consumers, through meters as security for payment of bills			288 00
			$462,012 83

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 27, 1896.

Street Service Repairs:		
Wages, materials and repairs		$17,424 67
Office Expenses:		
Salaries, etc		9,800 74
Hydrant Service:		
Wages, labor, etc		11,354 22
Pumping Service:		
Wages, labor, repairs, etc		12,673 45
Improvements and Extensions:		
Wages, labor, materials bought and new extensions		158,921 91
Materials and specials bought		913 92
Matured coupons paid { First Mort. Bonds	$23,580 00	
Matured coupons paid { Second Mort. "	12,500 00	
		36,080 00
Coal purchased		7,228 47
Interest account		2,672 10
Bills payable, paid		45,000 00
Attorney's fees and court costs		3,205 67
City taxes, 1895, paid		32,704 00
State taxes, 1895, paid		11,119 36
State license 1896, paid		300 00
Water rates refunded.... { First District	$847 80	
Water rates refunded.... { Sec. District	67 50	
		915 30
Rent office and shop		1,800 00
Stationery, printing and advertising		795 85
Keep horse and buggy		48 20
Rent of telephones		207 55
Miscellaneous and petty expenses		44 02
Dividends paid		100,850 00
Deposit with Edison Light Co.		10 00
Cash on hand and petty cash		7,943 40
		$462,012 83
Coal consumed		$6,215 81

GENERAL BALANCE, MARCH 29, 1896.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	7,943 40	
Materials and fixtures on hand	9,632 10	
Coal on hand	2,458 60	
New Orleans Gas Light Company deposit	10 00	
Edison Electric Company deposit	10 00	
New Orleans Customhouse due from them	1,200 02	
City of New Orleans, due for March	8,151 86	
City of New Orleans, due for March, 1896, not budgeted for	768 60	
Improvements and extensions (amount invested in)	822,184 37	
		$2,852,358 95

LIABILITIES—

Capital stock	$2,000,000 00	
First mortgage bonds	395,000 00	
Second mortgage bonds	250,000 00	
Bills payable	85,000 00	
Dividends unpaid	990 00	
Coupons unpaid	195 00	
Meter Bills, deposit account	288 00	
Profit and loss	120,885 95	
		$2,852,358 95
Bills for water rates in course of collection, not included in above assets		4,912 69

R. L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being duly sworn by me, notary, deposes and says that the foregoing is a true and correct copy and transcript from the books of the Company.

ATTEST:
R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

Sworn to and subscribed before me, notary, this 2d day of April, 1896.

{SEAL.}

CHAS. T. SONIAT,
Notary Public.

NINETEENTH ANNUAL REPORT

OF THE

New Orleans Waterworks Co.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
A. B. WHEELER,	"
G. W. NOTT,	"
HON. W. C. FLOWER, MAYOR,	EX-OFFICIO.
HON. GEO. B. PENROSE, CITY TREASURER,	"

APRIL 1st, 1897.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD., 74901.
1897.

PRESIDENT'S REPORT.

NEW ORLEANS, April 7th, 1897.

Board of Directors New Orleans Waterworks Company:

Gentlemen—Since my last annual report the suit of the New York Filter Company against this Company was appealed from the decision of the District Court in favor of the New Orleans Waterworks Company to the Supreme Court of Louisiana, and resulted in the decision of the lower court being sustained.

In regard to the litigation concerning the construction of our charter in the matter of pipe owners non-contiguous to the Mississisppi river I enclose a copy of a letter from our Attorney, J. R. Beckwith.

" NEW ORLEANS, Dec. 11th, 1896.

" R. E. CRAIG, ESQ., *Pres. N. O. W. W. Co.:*

" *Dear Sir*—I hand you enclosed copy of opinion of U. S. Supreme Court in Waterworks Co. vs. City. The opinion is as I expected it to be. It affirms the action of the Court in the Rivers and St. Tammany cases; declares City Pipe Ordinances *to be Legislation*, not mere *License;* dismissed the bill because the action of the city is legislation, and leaves the way clear to attack the non-contiguous pipe owners when laid under color of City Ordinances. The effect of Gray's opinion in the Sugar Refinery Case is out of the way. It has barred us in the local courts up to this time. I am satisfied with the action of the court.

" Very respectfully,

(Signed) " J. R. BECKWITH."

In accord with your instructions suit was brought by this Company in February last in the United States Circuit Court against William Henderson — a non-contiguous pipe owner — in order to protect the rights of this Company as provided in the charter; and, if possible, to obtain a judicial construction of the charter on this question of contiguity.

The City of New Orleans has not as yet paid the Company our claim for $4220.00 (said claim being for fire hydrants placed

during the first half of the year 1895). The reason for non-payment, we are informed, is because of lack of funds. This claim, not having been budgeted for by the city, is not carried as an asset on the books of the Company.

The Waterworks Company has faithfully performed its duties under the contract with the city; and, with the exception of the claim of $4,220.00, the city has made prompt payment monthly for the service rendered. The city members of the directory attend the meetings of the board regularly, and give us the benefit of their good judgment and advice in the management of the affairs of the Company.

The reports of the Superintendent and Secretary give the details of the work during the year in their respective departments. The bonded debt is the same as last year $395,000.00 first mortgage bonds, and $250,000.00 second mortgage bonds (total bonded debt (645,000.00). The additional debt of the Company is represented by bills payable, and amounts to $95,000.00, making the total bonded and floating debt, this date, $740.000.00. The "Improvement and Extensions" account on the books shows the amount expended for improvements to the machinery, and for pipe extensions, and amounts to $845,276.74 at this date. (Of this amount $23.092.37 was expended within past twelve months).

There were, on January 1, 1897, 1680 fire hydrants and wells being supplied by this Company. For this and other services of the Company the city has budgeted for $94,752.00 for the year 1897. The Company, in addition to the State tax of $11,118.05, pays the city a tax of $32,700.00. This reduces the cost of the service to the city to $62,052.00, being $36.93 per fire hydrant, not to mention the supply for public buildings and street cleaning; and not considering the sum of $19,635.00 collected by the city from this Company annually for dividends on the shares of stock of the Company held by the city (3927 shares). This partnership arrangement seems to show far better results for the city than when she owned and managed the works at an annual outlay of about $90,000.00 in excess of the income; and she now enjoys a very much better water service than she did then.

The question of filtration on a large scale with such waters as we have to contend with is as yet an unsolved problem, and many progressive cities, such as St. Louis, Cincinnati and Louis-

ville, are awaiting the result of further experiments. We are informed that the city of Louisville has appropriated $25,000.00 for the purpose of testing several plans of filtration. Other large cities are on the defensive as to their water supply. Even in some instances where the water is clear the quality is not satisfactory to consumers; notably in Philadelphia, Brooklyn, Newark, San Francisco and Chicago. The supply at Chicago, though clear as spring water, is at this time seriously polluted with sewerage.

Having led the van, and spent a large sum of money (about $40,000.00) experimenting with the New York Filter Company, without success, we naturally feel inclined to await the results of experiments made elsewhere.

Respectfully submitted,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 7, 1897.

President and Board of Directors New Orleans Waterworks Company:

Gentlemen—I beg to report the following

EXTENSIONS:

In April, 1896—On Carondelet street, from Valmont to a point 54 feet above Bordeaux street, 443 feet six-inch pipe, fourteen feet four-inch pipe, 1 fire hydrant. R. McNamara, contractor.

On Prytania street, from Eleanor to State street, 413 feet six-inch pipe, 14 feet 4-inch pipe, 1 fire hydrant, 1 six-inch main gate. R. McNamara, contractor.

In June, 1896—On Carondelet street, from Louisiana avenue to Toledano street, 479 feet six-inch pipe, 1 six-inch main gate. J. O'Rourke, Jr., contractor.

On Broadway street, from St. Charles avenue to Mississippi street, 1,420 feet six-inch pipe, 91 feet four-inch pipe, 4 fire hydrants and 1 six-inch main gate. Jas. O'Rourke, Jr., contractor.

In August, 1896—On Walnut street, from St. Charles avenue to Carrollton street, 627 feet six-inch pipe, 1 six-inch main gate. Robert McNamara, contractor.

In November, 1896—On Canal street, from Chartres street to Exchange alley, to reinforce a three-inch pipe on Exchange alley, 192 feet six-inch pipe, 40 feet three-inch pipe, 8 feet eight-inch pipe, and 1 six-inch main gate. R. McNamara, contractor.

In January, 1897—On Webster street, from Garfield to Prytania street, 685 feet six-inch pipe, 18 feet six-inch pipe and 1 fire hydrant. Jas. C. Burns, contractor.

In March, 1897—On Market street and near to, and down South Peters street to between Orange and Richard streets, a twelve-inch pipe for priming the suction or intake pipes in case of need, and as hereinafter reported; 509 feet twelve-inch pipe, 18 feet ten-inch pipe, 30 feet six-inch pipe and 6 main gates. Jas. C. Burns, contractor.

In March, 1897—On Grand Route St. John, from Esplanade street south, 452 feet six-inch pipe, 12 feet four-inch pipe and 1 Holly fire hydrant. Jas. C. Burns, contractor.

Before leaving the subject of Extensions I would say that the city has, by ordinances, authorized the erection of some 250 or more fire hydrants, which have not been placed. Their location is along lines of streets where no mains exist. Canvass of these streets for patronage of private consumers has been barren of results, leaving the only revenue from such extensions that to be derived from the city. The city being already in arrears to the Company and unable to warrant the payments of rental for these hydrants, if erected, this work is deferred.

In July, 1896—Contractor Jas. O'Rourke, Jr., completed the removal of 279 feet of cement pipe on Erato street, from Carondelet to Dryades streets, and replacing same with four-inch cast-iron pipe, and adding 1 four-inch main gate. This is not included in statements of extensions.

So explained, extensions during the year are as follows:

Three inch pipe	40 feet.
Four-inch pipe	149 feet.
Six-inch pipe	4,741 feet.
Eight-inch pipe	8 feet.
Ten-inch pipe	18 feet.
Twelve-inch pipe	509 feet.
Total in feet	5,465 feet.

Total in distribution to date in miles, 119.30.

In connection with the extensions above reported, there have been placed 8 fire hydrants, 12 main gates or valves.

The thirty-inch main on Front street and adjacent thereto has continued to give trouble owing to leaks caused by the heavy railroad traffic passing over it. The Illinois Central Railroad

has recently driven piles between Calliope and Diamond streets for the tracks to rest upon, has provided a quantity of back filling and liberal supply of labor. Your Company has recaulked joints and applied restraining clamps to the bells, and the hope is that at least no such disaster will occur as the rupture of this important artery.

During last October there was a prolonged and severe drouth. Your Company opened all fire hydrants for relief to a larger extent than ever before, refusing no reasonable application for such relief. Additionally and contrary to rules and custom, and under the extraordinary conditions, paying consumers were permitted to supply their suffering neighbors from their private hydrants. This work of relief was done by the Company of its own accord, and without the aid from the city which contract with the city provides for.

The annual blow-off of sediment from the mains in the whole distribution was attended to in November.

During the past summer it became necessary to dredge away the sediment from around the noses of the intake pipes. This was satisfactorily accomplished, as it was last year, by the use of the propeller blade of a harbor tug-boat.

PRIMING SUPPLY.

On several occasions during the past year both the Allis and the Beam engines "lost water" in their suction pipes and refused to operate, entailing delay in re-establishing normal supply, and grave apprehensions of danger and damage in case of fire. Fortunately, these occurrences were at such hours and under such circumstances as entailed no damage or inconvenience to any one. A natual inference would be that the suction pipes were leaking or taking air. No such condition existed. Your neighbor, the large plant of the Louisiana Electric Light Company, had had somewhat similar experience, and provided against its recurrence by the erection of large tanks over the suction pipes for priming them in case of need. It was contemplated to pursue this course in our case, but it was decided to utilize your otherwise unused reservoir for the purpose. To that end, connection has been accordingly made, as elsewhere reported. This arrangement is, of course, preferable, the only objection being the

accumulation in the resorvoir of a particularly offensive vegetable growth and the fear of its conveyance into the general distribution. The utmost care and watchfulness will be observed to prevent this.

PUMPING MACHINERY.

What is known as the "Main" or Beam engine has been overhauled and remodelled by the Allis Company, of Milwaukee. At the time the test was made, it seemed that the contract specifications had been complied with. It is now known that the engine does not work at all satisfactorily under the varying and changing stages of the river. The matter is now a subject of correspondence with the Allis Company.

The Allis pumps continue to give good service. The Knowles pump is seldom used.

POLLUTION OF THE RIVER.

Reference was made in my annual report April 1, 1895, to the question of possible pollution from the discharge of sewerage at Barracks street.

Since that time the city has resumed the removal of garbage, using the Robin street wharf, two and a half squares below your intake pipes, for dumping garbage into boats, which when filled are towed below the line of city limits and there discharged into the river.

During the past summer, on assumption by the city of garbage disposal, the boats used were old coal barges, many of which sank under the weight of their contents. This was a temporary condition of affairs and has been remedied by the use of new, strong and tight boats. The garbage boat at Robin street and the two boats for conveyance of night soil from same wharf are towed away daily, and my personal inspection of them all warrants me in saying that, in my judgment, no danger threatens your intake supply from contamination by their use.

Reference is thus made to the subject that stockholders and patrons of the Company may feel assured that this Company is in close touch and concert with the Board of Health and is jealously watching any possible pollution of the water furnished to our people.

The pressure at the Pumping Station is still maintained at that due to eighty-five feet head, day and night. You will remember that the contract obligation of the Company in this connection is, that the day pressure shall be that due to fifty feet head, and the night supply to be furnished by gravity from reservoir, which would be, say about thirty feet head.

There is an increase of revenue from water rates over last year, but I beg to say that this is due, not from an increase of rates or assessments, but from increase of patronage. Rates or assessments are supposed to be governed by the tariff in force by the city at the time your Company purchased the plant, and in fact, this is a charter requirement. I know of no case where these rates have been exceeded. On the contrary, assessments are within the limit of the tariff by a very liberal percentage in favor of the consumer.

Monthly examinations of the condition of fire hydrants and fire wells continue in force. Your spannermen are accompanied by a member of the Fire Department in these monthly examinations and the report of the representative of this Company is countersigned by the representative of the Fire Department.

When a fire hydrant is found in need of repair, that repair receives immediate attention and by preference over any other work by the street force.

The pumpage for the year exceeds the previous year by 426,000,000 gallons. Coal used is exactly proportionately larger. Pumpage for the year in round figures was 3,918,000,000 gallons.

I herewith hand you detailed report of work done during the year by the street department, and inventory of pipes, etc., on hand for extensions and repairs.

As usual, the inventory of tools and materials on hand at the Pumping Station and in the foreman's shop, has been made and is on file in the office.

Respectfully submitted,

L. H. GARDNER,
Superintendent.

ENGINE RECORD, MARCH 30, 1896, TO MARCH 31, 1897.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate of Engine.	Gallons Oil	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total							
1896												
April.....	148,310,301	82	823	.....	.....	68,485,110	1001	.....	.....	.....	.....	.....
	112,987,390	82	683	36	1,542	62,828,088	918	6.	5 ft. 7 in	125	83	261,297,691
May	161,191,532	85	945	.....	.....	67,216,869	948	.....	.....	.....	.....	.....
	136,629,108	85	782	18	1,745	68,757,320	969	6.	9 ft. 8 in	134	79	297,820,640
June	171,739,364	84	942	.....	.....	70,939,698	942	.....	.....	.....	.....	.....
	146,505,057	84	814	12	1,768	70,163,031	814	6.	8 ft. 7 in	139	75	318,244,421
July	193,615,571	91	1,029	.....	.....	79,344,847	1,029	.....	.....	.....	.....	.....
	167,730,593	91	920	17	1,966	76,991,217	920	5.75	12 ft. 5 in	154	77	361,346,164
August	207,940,689	101	1,096	.....	.....	99,329,542	1,053	.....	.....	.....	.....	.....
	205,992,011	101	1,110	236	2,442	86,300,806	1,030	6.	11 ft.... in	175	70	413,932,700
September ..	194,008,842	86	1 013	.....	.....	76,330,719	1,063	.....	.....	.....	.....	.....
	185,936,247	86	1 035	.....	2,048	71,583,958	998	6.	14 ft. 7 in	177	89	379,945,089
October.....	219,499,632	90	1,177	.....	.....	77,751,969	1,036	.....	.....	.....	.....	.....
	179,709,216	90	961	6	2,144	77,925,902	1,038	6.	15 ft.. . in	148	94	399,208,848
November...	170,965,246	88	888	.....	.....	78,470,802	1,069	.....	.....	.....	.....	.....
	155,208,736	88	897	3	1,788	70,532,998	961	5.50	14 ft. 10 in	134	75	326,173,982
December ...	187,298,987	88	1,164	.....	.....	65,614,107	894	.....	.....	.....	.....	.....
	157,298,089	88	1,024	34	2,222	62,605,322	853	5.50	14 ft. 1 in	163	105	344,597,076
Jany. 1897..	151,549,516	87	991	.....	.....	61,098,609	842	.....	.....	.....	.....	.....
	149,611,422	87	992	56	2,039	60,781,106	838	6.	12 ft.... in	105	108	301,160,938
February	129,387,720	90	729	.....	.....	74,079,666	987	.....	.....	.....	.....	.....
	117,171,516	90	734	.....	1,463	66,577,547	886	6.	8 ft. 8 in	114	72	246,559 236
March	146,570,269	79	774	.....	.....	69,374,488	1,052	.....	.....	.....	.....	.....
	121,084,194	79	729	.....	1,503	60,806,045	922	6.	3 ft. 8 in	125	80	267,654,463
Totals.....	3,917,941,248		22,252	418	22,670	.....	.....	.....	.....	1693	1007	3,917,941,248

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	752
Holly	723
Underground or flush	121
Mathew	42
Iron case	34
Boston	3
Fire wells	82—1757
Main stop cocks or gates	973

DISTRBIUTION—CAST IRON PIPES.

3-inch	40,292 ft.	10-inch	38,102 ft.	20-inch	8,405 ft.
4-inch	87,769 ft.	12-inch	15,621 ft.	24-inch	7,166 ft.
6-inch	221,791 ft.	16-inch	21,175 ft.	30-inch	17,781 ft.
8-inch	145,384 ft.	18-inch	23,476 ft.	36-inch	3,600 ft.

Or say, 119.30 miles.

MEAN TEMPERATURE AND RAIN FALL IN NEW ORLEANS FOR PAST THIRTEEN YEARS.

MEAN TEMPERATURE.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
Jan..	47	52	39	51	56	51	65	53	49	50	58	52	52	51
Feb ..	61	53	42	65	59	52	64	62	61	61	55	58	56	58
Mar..	65	58	58	62	60	58	62	61	59	61	63	62	61	69
Apr..	68	70	65	68	70	70	70	68	60	72	70	68	71	...
May	76	74	72	75	73	74	74	74	74	76	75.	74	78	...
June	79	82	79	78	77	78	80	81	79	80	78	80	80	...
July..	85	83	80	80	81	83	81	81	80	83	79	82	83	...
Aug..	82	75	81	81	75	81	80	81	82	82	80	82.	83	...
Sept.	81	72	78	77	75	79	77	78	77	80	80	82	79	...
Oct....	74	56	69	69	68	70	69	68	71	69	71	69	70	...
Nov..	60	51	59	61	62	59	64	60	62	60	60	60	65	...
Dec...	59	46	51	53	51	64	56	56	56	58	58	54	55	..

RAIN FALL.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
Jan..	4.35	9.70	7.53	4.26	3.29	6.51	.66	3.75	5.87	2.50	1.76	7 19	2.33	1.92
Feb ..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42	0.04	4.92	11.06	3 92	2.78	4 82
Mar..	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3.49	5.94	3 81	5.29	4.82
Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	3.70	4.71	2.58	5.00	.....
May..	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	2.62	2.66	1.79	7.95	2 80	.... .
June	8 69	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	5.30	5.19	9.74	8.23	.....
July..	4.12	6.15	4.35	7.85	2.04	9.13	6.50	4.57	7.46	3 72	11.51	6.07	2 92	.....
Aug...	.87	4.25	2.40	7.42	22.74	5.59	3.02	1.69	6 96	4.56	7 32	6.79	3 31	.....
Sept .	3.12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	6 33	4.38	92	1.97	5.26	.....
Oct ...	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	2.14	4 24	.89	1.21	5.14	.....
Nov .	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	3.55	6.24	1.34	0.69	2.82	.....
Dec...	8.01	4.38	2.57	7.50	3.68	.67	2.58	3.93	3.22	2.31	2.01	4.52	3.77	.....

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

Cast Iron Pipe.

57 pieces 3 inch pipe, 12 feet long.
59 pieces 4 inch pipe, 12 feet long.
19 pieces 6 inch pipe, 12 feet long.
98 pieces 8 inch pipe, 12 feet long.
21 pieces 10 inch pipe, 12 feet long.
16 pieces 12 inch pipe, 12 feet long.
4 pieces 16 inch pipe, 12 feet long.
5 pieces 18 inch pipe, 12 feet long.
3 pieces 20 inch pipe, 12 feet long.
4 pieces 24 inch pipe, 12 feet long.
23 pieces 30 inch pipe, 12 feet long.
13 pieces 36 inch pipe, 12 feet long.
3 pieces 48 inch pipe, 12 feet long.
25 feet of 12 inch pipe, in 5 pieces, with bells.
21 feet of 12 inch pipe, in 4 pieces, spigot ends.
9 feet of 16 inch pipe, in 2 pieces, with bells.
3 feet of 18 inch pipe, in 1 piece, with bells.
3 feet of 18 inch pipe, in 1 piece, spigot ends.
8 feet of 24 inch pipe, in 1 piece, bell ends.
24 feet of 24 inch pipe, in 4 pieces, spigot ends.
11 feet of 30 inch pipe, in 2 pieces, bell ends.
26 feet of 30 inch pipe, in 4 pieces, spigot ends.
11 feet of 36 inch pipe, in 3 pieces, bell ends.

2 3 inch quarter bends.
13 4 inch quarter bends.
14 6 inch quarter bends.
22 8 inch quarter bends.
2 10 inch quarter bends.
13 3 inch eighth bends.
19 4 inch eighth bends.
25 6 inch eighth bends.
20 8 inch eighth bends.
3 10 inch eighth bends.
1 12 inch eighth bends.
1 16 inch easy bends.
2 30 inch easy bends.

Three Way Branches.

5 pieces 3 x 3.
1 piece 3 x 3 (with 3 bells).
3 pieces 4 x 3 (with 3 bells).

THREE WAY BRANCES—Continued.

11 pieces 4 x 3.
6 pieces 4 x 4.
9 pieces 6 x 3.
23 pieces 6 x 4.
11 pieces 6 x 6.
2 pieces 8 x 3 (with 3 bells).
11 pieces 8 x 3.
21 pieces 8 x 4.
4 pieces 8 x 6.
1 piece 8 x 6 (with 3 bells).
1 piece 8 x 8.
3 pieces 10 x 3.
20 pieces 10 x 4.
13 pieces 10 x 6.
1 piece 10 x 6 (with 3 bells.)
2 pieces 10 x 8.
2 pieces 10 x 10.
5 pieces 12 x 6.
2 pieces 12 x 8 (with 3 bells).
1 piece 12 x 12 (with 3 bells).
1 piece 16 x 8 (with 3 bells).
2 pieces 30 x 6 (with 1 bell).
5 pieces 30 x 12 (with 3 bells).

FOUR WAY BRANCHES.

9 pieces 3 x 3.
10 pieces 4 x 3.
19 pieces 4 x 4.
9 pieces 4 x 4 (with 4 bells).
19 pieces 6 x 3.
24 pieces 6 x 4.
5 pieces 6 x 6 (with 4 bells).
24 pieces 6 x 6.
10 pieces 8 x 3.
11 pieces 8 x 4.
1 piece 8 x 6 (with 4 bells).
22 pieces 8 x 6.
1 piece 8 x 8 (with 4 bells.)
21 pieces 8 x 8.
8 pieces 10 x 3.
13 pieces 10 x 4.
14 pieces 10 x 6.
8 pieces 10 x 8.
2 pieces 12 x 6.
2 pieces 12 x 8.

Four Way Branches—Continued.

4 pieces 16 x 6.
5 pieces 16 x 8.
1 piece 16 x 12.
1 piece 20 x 8.
1 piece 20 x 10.
1 piece 30 x 8.
1 piece 12 x 12 Y Branch.

Cast Iron Plugs.

3 4 inch.
1 8 inch.
1 16 inch.
1 30 inch.

Reducers.

4 4 to 3 inch reducers.
1 6 to 3 inch reducers.
27 6 to 4 inch reducers.
5 8 to 3 inch reducers.
6 8 to 4 inch reducers.
13 8 to 6 inch reducers.
1 12 to 6 inch reducers.
2 12 to 8 inch reducers.
1 12 to 10 inch reducers.
1 16 to 12 inch reducers.
1 18 to 16 inch reducers.
1 20 to 12 inch reducers.

Sleeves.

15 3 inch sleeves, 18 inches long.
10 4 inch sleeves, 18 inches long.
12 6 inch sleeves, 18 inches long.
23 8 inch sleeves, 18 inches long.
4 10 inch sleeves, 18 inches long.
2 10 inch sleeves, 10 inches long.
12 12 inch sleeves, 18 inches long.
8 16 inch sleeves, 18 inches long.
1 16 inch sleeves, 12 inches long.
1 16 inch sleeves, 30 inches long.
2 18 inch sleeves, 15 inches long.
11 18 inch sleeves, 18 inches long.
1 24 inch sleeves, 18 inches long.
2 30 inch sleeves, 16 inches long.
1 30 inch sleeves, 24 inches long.
2 36 inch sleeves, 15 inches long.

Half Sleeves.

2 10 inch half sleeves, 10 inches long.
2 12 inch half sleeves, 10 inches long.
2 16 inch half sleeves, 18 inches long.
2 18 inch half sleeves, 18 inches long.
1 36 inch half sleeves, 30 inches long.

Valves.

3 3 inch Chapman valves.
1 3 inch Ludlow valves.
27 4 inch Chapman valves.
9 6 inch Chapman valves.
1 6 inch Chapman valves, with flanges.
15 8 inch Chapman valves.
1 8 inch Rensselaer valves.
1 8 inch Eddy valves.
6 10 inch Chapman valves.
1 10 inch R. D. Wood valves.
2 12 inch Chapman valves.
1 18 inch Chapman valves.
1 20 inch Boston valves.

Various.

17 Morgan stop cock cases, complete.
38 Covers for Morgan stop cock cases.
14 Double Holly fire hydrants.
3 Single Holly fire hydrants.
50 Jackets for double Holly fire hydrants.
35 Jackets for single Holly fire hydrants.
24 Valve rods for Holly fire hydrants.
20 12 inch extensions for double Holly fire hydrants.
22 15 inch extensions for double Holly fire hydrants.
28 18 inch extensions for double Holly fire hydrants.
31 24 inch extensions for double Holly fire hydrants.
13 12 inch extensions for single Holly fire hydrants.
21 15 inch extensions for single Holly fire hydrants.
14 18 inch extensions for single Holly fire hydrants.
10 24 inch extensions for single Holly fire hydrants.

Cypress Plugs.

17 8 inch straight cypress plugs.
2 4 inch taper cypress plugs.
5 6 inch taper cypress plugs.
10 8 inch taper cypress plugs.
16 10 inch taper cypress plugs.
182 pigs of lead at 85 lbs. per pig.

Materials Used in Making Extensions.

1	6 x 4 inch three-way branches.
1	6 x 6 inch three-way branches.
1	8 x 6 inch three-way branches.
1	10 x 6 inch three-way branches.
1	12 x 6 inch three-way branches.
1	12 inch saddle for 16 inch pipe.
1	12 inch saddle for 30 inch pipe.
1	12 inch saddle for 36 inch pipe.
1	12 inch saddle for 48 inch pipe.
2	4 inch ¼ bends.
2	6 inch ¼ bends.
4	12 inch ¼ bends.
4	6 inch ⅛ bends.
1	12 inch ⅛ bends.
3	6 inch sleeves.
1	8 inch sleeves.
1	12 inch sleeves.
2	6 inch Chapman valve.
2	10 inch Chapman valve.
2	12 inch Rensselaer valve.
289	Feet 4 inch pipe.
418	Feet 6 inch pipe.
30	Feet 10 inch pipe.
509	Feet 12 inch pipe.
40	¾ inch machine bolts and nuts.
200	Feet 4 x 4 inch scantling.
7	Wooden cases for stop cocks.
10	Wooden frames for stop cocks.
6	Cast iron frames and covers for stop cocks.
2364	Pounds pig lead.
81	Pounds hemp packing yarn.
925	Pounds coal.
1	Barrel cement.
1	Barrel sand.
4	¼ inch ferrules.
2	⅜ inch ferrules.
6	Holes drilled where cement was taken out.

Placing Holly Fire Hydrant as Follows:

1	Double nozzle Holly fire hydrants on Esplanade and DeSoto
1	Double nozzle Holly fire hydrants on Esplanade and Mauripas.
2	8 x 4 inch three-way branch.
2	8 inch sleeves.
48	Feet 4 inch pipe.

PLACING HOLLY FIRE HYDRANTS—Continued.

180 Pounds pig lead.
30 Pounds hemp packing yarn.
200 Pounds coal.

FIRE HYDRANT CHANGES.

Removed wooden case fire hydrant and placed single nozzle fire hydrant on wood side St. Charles, near Howard avenue.
Removed wooden case fire hydrant and placed single nozzle Holly fire hydrant on Common, between Howard and Villere.
Removed wooden case fire hydrant and placed underground or flush fire hydrant in French Fish Market.
Removed underground fire hydrant and placed single nozzle fire hydrant on corner St. Philip and Peters, at vegetable market.
Removed Phil. fire hydrant and placed wooden case fire hydrant corner Canal and Derbigny.
Removed broken Mathew fire hydrant and placed single nozzle Holly fire hydrant on St. Andrew and St. Charles.
Removed broken Mathew fire hydrant and placed single nozzle Holly fire hydrant on St. Andrew and Coliseum.
Removed broken Mathew fire hydrant and placed single nozzle Holly fire hydrant on St. Charles, between Second and Third.

PRIVATE WORK DONE.

DRILLING MAIN FOR PLUMBERS AND REPAIRS FOR PRIVATE PERSONS.

28 ½ inch ferrules.
125 ¾ inch ferrules.
92 ¾ inch ferrules.
245 Holes drilled.
15 Closings of main stop cocks for repairs to service pipes.
1 Repair to service pipe.
1 3 x 3 inch three-way branch.
1 4 x 4 inch three-way branch.
4 4 inch ¾ bends.
1 3 inch ¾ bends.
1 6 inch ¾ bends.
1 3 inch ¾ sleeve.
1 6 inch ¾ sleeve.
1 8 inch sleeve.
1 3 inch Chapman valve.
1 4 inch Chapman valve.
3 3 inch Chapman valve iron screw.
1 3 inch Chapman valve iron screw.

PRIVATE WORK DONE—Continued.

3 4 inch Chapman valve iron screw.
1 6 inch Chapman valve iron screw.
1 4 inch Thompson & West iron screw.
1 4 inch Thompson & West iron screw.
8 ⅝ inch machine bolts and nuts.
48 Feet 3 inch pipe.
72 Feet 4 inch pipe
36 Feet 6 inch pipe.
12 Feet 8 inch pipe.
2 Morgan frames and covers.
1 Single nozzle Holly fire plug, to replace wooden cased fire hydrant.
1 Brick fire well.
1 Wooden cased fire hydrant repaired, with all fittings.
294 Pounds pig lead.
43 Pounds hemp packing yarn.
300 Pounds coal.

MATERIALS USED FOR REPAIRS TO WOODEN CASE FIRE HYDRANTS.

648 Leaking wooden-case fire hydrants.
2 Wooden-case fire hydrants, removed and replaced with Holly fire hydrants.
1 Wooden-case fire hydrant, removed and replaced with underground fire hydrant.
156 Wrought iron rods.
156 Wrought iron screws and clamps.
312 Wrought iron stirrups and nuts.
156 Wrought iron buttons
156 Wrought iron slats.
312 Wrought iron keys to fasten screw clamps.
85 Wrought iron hooks for top staves for repairs to wooden cases.
10 Wrought iron top bands for repairs to wooden cases.
30 Wrought iron middle bands for repairs to wooden cases.
15 Wrought iron bottom bands for repairs to wooden cases.
1 Wrought iron band for goose neck, 8 inches diameter.
25 Wrought iron bolts and nuts.
156 Cast iron valve flanges, small.
156 Cast iron valve flanges, large.
4 Cast iron top covers with hinges.
40 Brass nozzles to replace broken ones.
85 Bent nozzles straightened and filed.
142 Cypress cases and covers with hinges.
85 Cypress top staves and hooks for repairs to old cases.

MATERIALS USED FOR REPAIRS TO WOODEN CASE FIRE HYDRANTS—Continued.

15 Cypress bottom staves for repairs to old cases.
15 Cypress back staves for repairs to old cases.
156 Gum valves.
156 Joints made.
648 Joints caulked.
648 Packings renewed.
255 ¾ inch bolts and nuts to fasten hooks to top staves.
936 Pounds pig lead.
50 Pounds hemp packing.
400 Pounds coal.

MATERIALS USED FOR REPAIRS TO PHILADELPHIA FIRE HYDRANTS.

25 Leaking Philadelpia fire hydrants repaired.
1 Philadelphia fire hydrant removed and replaced with wooden case fire hydrant.
12 Wrought iron rods.
12 Wrought iron screws and clamps.
24 Wrought iron stirrups and nuts.
12 Wrought iron button.
12 Wrought iron slats.
24 Wrought iron keys to fasten screw clamps.
12 Cast iron valve flanges, small.
12 Cast iron valve flanges, large.
5 Cast iron cases and covers with hinges.
2 Cast iron cases and covers with hooks.
4 Brass Packing boxes to replace broken ones.
6 Brass nozzles to replace broken ones.
10 Bent nozzles straightened and thread filed.
12 Gum valves.
12 Lead joints.
25 Joints caulked.
25 Packing renewed.
60 Pounds pig lead.
30 Pounds hemp packing yarn.
100 Pounds coal.

MATERIALS USED FOR REPAIRING UNDERGROUND OR FLUSH FIRE HYDRANTS.

87 Leaking underground fire hydrants repaired.
1 Underground fire hydrant removed to place Holly fire hydrant.
19 Copper rods.

MATERIALS USED FOR REPAIRING UNDERGROUND OR FLUSH FIRE HYDRANTS—Continued.

21	Wrought iron rods.
40	Wrought iron screws, with brass nuts.
80	Wrought iron stirrups and nuts.
40	Wrought iron buttons.
40	Wrought iron slats.
40	Cast iron valve flanges, small.
40	Cast iron valve flanges, large.
5	Cast iron frames and covers.
5	Boiler iron covers to replace broken ones.
40	New brass nuts for screws.
10	New brass nozzles to replace broken ones.
20	Bent nozzles straighteded and thread filed.
40	Gum valves.
26	Cypress cases.
40	Joints.
87	Joints caulked.
87	Packings removed.
240	Pounds pig lead.
20	Pounds hemp packing yarn.
100	Pounds coal.

MATERIALS USED FOR REPAIRING HOLLY FIRE HYDRANTS.

486	Leaking Holly fire hydrants repaired.
5	Broken Holly fire hydrants replaced with new ones.
2	Holly fire hydrants to replace wooden case fire hydrants.
1	Holly fire hydrant to replace underground fire hydrant.
3	Holly fire hydrants to replace broken Mathew hydrants.
5	Holly fire hydrants removed were banquette was widened.
4	Holly fire hydrants raised where nozzle was too low.
7	Wrought iron rods.
486	Wrought iron screws covered with brass
486	Cast iron valves.
486	Cast iron valve seats.
3	Cast iron ferrules to cover valve screw.
5	Cast iron top covers.
7	Cast iron frost jackets.
4	Cast iron extensions, 1 foot long each.
9	Brass glands or packing box caps.
8	Brass nozzles to replace broken ones.
20	Bent nozzles straightened and thread filed.
486	Gum valves.
15	Feet 4 inch pipe.
16	½ inch tap bolts.
40	½ inch stub bolts and nuts.

MATERIALS USED FOR REPAIRING HOLLY FIRE HYDRANTS—Continued.

24 ⅝ inch machine bolts and nuts.
486 Lead joints.
486 Joints caulked.
538 Packings renewed.
20 Pounds gum packing.
400 Pounds pig lead.
35 Pounds hemp packing yarn.
200 Pounds coal.

MATERIALS USED FOR REPAIRING MATHEW FIRE HYDRANTS.

15 Leaking Mathew fire hydrants repaired.
3 Broken Mathew fire hydrants replaced with Holly fire hydrants.
6 Hollow brass nuts.
3 Cast iron top nuts.
2 Cast iron top covers.
15 Gum valves.
12 Feet 4 inch pipe.
15 New joints.
15 Joints caulked.
15 Packings renewed.
180 Pounds pig lead.
20 Pounds hemp packing yarn.
75 Pounds coal.
3 Single nozzle Holly fire hydrants to replace Mathew hydrants.

MATERIALS USED FOR REPAIRING BOSTON FIRE HYDRANTS.

1 Leaking Boston fire hydrant repaired.
1 Gum valve.
1 Joint caulked.
1 Packing renewed.

MATERIALS USED TO REPLACE BROKEN MAIN GATES.

2 Broken main gates replaced with new gates.
1 8 inch Chapman gate for fire well.
1 8 inch Chapman gate for main pipe.
1 24 inch Chapman gate for main pipe.
24 Screws furnished for main gates and fire wells.
3 3 inch Thompson & West iron screws.
2 4 inch Thompson & West iron screws.

MATERIALS USED TO REPLACE BROKEN MAIN GATES—Continued.

3	6 inch Thompson & West iron screws.
5	8 inch Thompson & West iron screws.
2	10 inch Thompson & West iron screws.
2	18 inch Thompson & West iron screws.
3	3 inch Chapman iron screw.
2	8 inch Chapman iron screw.
2	8 inch Boston iron screw double thread.
14	Feet 8 inch pipe.
12	Feet 24 inch pipe.
1	24 inch sleeve.
240	¾ inch machine bolts and nuts.
526	Leaking main gates repaired.
75	Leaking fire well gates repaired.
6	Cast iron glands or packing-box caps.
1050	New packing box bolts and nuts.
4	Ditching for main gates covered over.
80	Raising frames and covers main gates to level of street.
20	Raising frames and covers fire well gate to level of street.
45	Wooden cases.
486	Wooden frames to raise frames and covers to level of street.
15	Cast iron frames and covers.
2	Morgan frames and covers.
1	Large fire well cover to replace broken one.
8	Lead joints.
900	Joints caulked.
526	Packings renewed.
350	Pounds pig lead.
35	Pounds hemp packing yarn.
280	Pounds coal.

MATERIALS USED TO REPLACE BROKEN MAIN PIPES WITH NEW PIPES, BROKEN MAIN PIPES REPLACED.

6	Plugs blown out of main pipes and branches.
1	4 inch cypress straight plug.
2	6 inch cypress straight plug.
3	8 inch cypress straight plug.
62	Feet 3 inch pipe.
60	Feet 4 inch pipe.
96	Feet 6 inch pipe.
120	Feet 8 inch pipe.
24	Feet 10 inch pipe.
12	Feet 12 inch pipe.
12	Feet 16 inch pipe.

MATERIALS USED TO REPLACE BROKEN MAIN PIPES WITH NEW PIPES, BROKEN MAIN PIPES REPLACED—Continued.

2	3 inch sleeves.
5	4 inch sleeves.
9	6 inch sleeves.
10	8 inch sleeves.
2	10 inch sleeves.
1	12 inch sleeve.
1	16 inch sleeve.
420	Pounds pig lead.
40	Pounds hemp packing yarn.
1400	Pounds coal.
1	¾ inch ferrule to connect service pipe.
2	¾ inch ferrules to connect service pipe.
70	Feet 1x12 inch boards.

MATERIALS USED FOR REPAIRS TO MAIN PIPES.

601	Leaks repaired on main pipes, from 3 inch to 20 inch.
6	Leaks repaired on 24 inch pipe.
69	Leaks repaired on 30 inch pipe.
2	Leaks repaired on 36 inch pipe.
2	Joints blowed, 30 inch pipe.
3	Joints blowed, 30 inch pipe, drawn apart.
2	Leaks on cement pipe repaired.
16	Wrought iron bands, 34 inches diameter.
1	Bar of iron, 4½ feet long by 4 x ¾ inches.
64	1 inch machine bolts and nuts.
8	1¼ inch machine bolts and nuts, 18 inches long.
4	1¼ inch machine bolts and nuts, 9 feet long.
30	feet 12 x 8 inch timbers.
500	Pounds pig lead.
50	Pounds hemp packing yarn.
400	Pounds coal.
1	Service cut by mistake by Company, repaired by plumber.
7	Service cut.
24	Drawing ferrules from main pipe.
3	Digging for service stop cocks.
3	Closing of main stop cocks for contractor.

PAVING FOR ALL REPAIRS DONE.

6271	Yards paving.
2705	Yards flagging.
3250	Yards bricking.

PAVING FOR ALL REPAIRS DONE—Continued.

38 Yards Schillinger pavement.
14 Yards asphalt pavement.
269 Yards gravel pavement.
25 Yards chert pavement.
10 Yards vitrified pavement.
12 Loads chert.
68 Loads gravel.
12 Loads river sand.
1273 Loads cinders.
5 Barrels cement.
5 Barrels sand.

MATERIALS ON HAND IN WORKSHOP FOR REPAIRS TO WOODEN CASED AND UNDERGROUND AND PHILADELPHIA FIRE HYDRANTS.

8 Wooden-cased fire hydrants in good repair.
4 Wooden-cased fire hydrants not in good repair.
4 Philadelphia iron-cased fire hydrants in good repair.
2 Philadelphia iron-cased fire hydrants not in good repair.
6 Underground fire hydrants in good repair.
2 Underground fire hydrants not in good repair.
3 Philadelphia iron cases for fire hydrants in good repair.
4 Philadelphia iron cases for fire hydrants not in good repair.
44 Wrought iron rods for wooden-cased fire hydrants.
26 Wrought iron rods for Philadelphia iron cased fire hydrants.
9 Wrought iron rods for underground fire hydrants.
10 Copper rods for underground fire hydrants.
3 Wrought iron screws with clamps.
47 Wrought iron screws without clamps.
158 Wrought iron buttons.
304 Wrought iron slats.
87 Wrought iron keys to fasten clamps.
39 Wrought iron middle bands for wooden cases.
19 Wrought iron bottom bands for wooden cases.
36 Cast iron valve flanges, small.
109 Cast iron valve flanges, large.
54 Wrought iron hooks for wooden cases.
3 Wooden cases for fire hydrants.
4 Wooden cases for underground fire hydrants.
46 Brass nozzles for fire hydrants.
94 Gum valves.
4 3 inch goose neck for fire hydrants.
3 4 inch goose neck for fire hydrants.

Materials on Hand in Workshop for Street Service Repairs for Holly Fire Hydrants.

60 Wrought iron screws covered with brass.
33 Cast iron valves for single nozzles.
42 Cast iron valve seats for single nozzles.
76 Cast iron valves for double nozzles.
42 Cast iron valve seats for double nozzles.
5 Cast iron frost jackets for single nozzles.
7 Cast iron frost jackets for double nozzles.
20 Cast iron extensions for single nozzle fire hydrants.
21 Cast iron extensions for double nozzle fire hydrants.
50 Cast iron top covers for single nozzle fire hydrants.
59 Cast iron top covers for double nozzle fire hydrants.
125 Cast iron ferrules to cover valve screw.
18 Brass nozzles.
93 Brass glands for packing boxes.
163 ½ inch top bolts for extensions.
334 ½ inch stud bolts and nuts for top covers.
277 ⅝ inch tee head bolts and nuts for frost jackets.
46 Gum valves.

For Repairs to Mathew Fire Hydrants.

33 Brass hollow screws.
46 Gum valves for both Mathew and Boston fire hydrants.

Materials on Hand for Street Service Repairs in Workshop for Repairs to Main Stop Cocks.

4 3 inch Thompson & West iron screws.
12 4 inch Thompson & West iron screws.
11 6 inch Thompson & West iron screws.
5 8 inch Thompson & West iron screws.
8 10 inch Thompson & West iron screws.
20 12 inch Thompson & West iron screws.
13 16 inch Thompson & West iron screws.
12 18 inch Thompson & West iron screws.

Whittier or Boston Iron Screws for Main Stop Cocks.

12 6 inch iron screws.
12 8 inch iron screws.
12 10 inch iron screws.
12 12 inch iron screws.
12 20 inch iron screws.

Eddy or R. D. Woods Iron Screws for Main Stop Cocks.

26 6 inch iron screws.
24 8 inch iron screws.
7 10 inch iron screws.
3 12 inch iron screws.

Chapman Iron Screws for Main Stop Cocks.

10 3 inch iron screws for main stop cocks.
10 4 inch iron screws for main stop cocks.
15 6 inch iron screws for main stop cocks.
17 8 inch iron screws for main stop cocks.
7 6 inch iron screws for main stop cocks.

Ludlow or Boston Iron Screws for Main Stop Cocks.

8 8 inch iron screws for main stop cocks.
42 Unfinished cast iron glands, from 3 to 12 inches, for main stop cocks.
37 Unfinished cast iron glands, from 16 to 18 inches, for main stop cocks.
115 Finished cast iron glands, from 3 to 8 inches.
100 Packing box bolts and nuts.
65 ½ inch packing box bolts and nuts for Chapman main stop cocks.
5 Wooden cases for main stop cocks.
14 Wooden frames for raising frames and covers of main stop cocks to level of street.
1 6 inch Chapman valve for fire well, flanged.
4 Morgan frames and covers.

Materials in Yard of Workshop for Street Service Repairs.

4 Lengths 3 inch pipe.
6 Lengths 4 inch pipe.
4 Lengths 6 inch pipe.
1 Length 8 inch pipe.
3 Lengths 10 inch pipe.
4 3 inch sleeves.
2 4 inch sleeves.
3 6 inch sleeves.
2 8 inch sleeves.
3 10 inch sleeves.

MATERIALS IN YARD OF WORKSHOP FOR STREET SERVICE REPAIRS—Continued.

1	3 inch ¼ bend.
1	6 inch ½ bend.
1	6 inch saddle for 16 inch main pipe.
1	2 to 4 inch cypress tapering plugs.
4	4 to 7 inch cypress tapering plug.
1	5 to 10 inch cypress tapering plug.
3	3 inch cypress straight plug for ends of main pipes.
2	6 inch cypress straight plug for ends of main pipes.
10	8 inch cypress straight plug for ends of main pipes.
174	Pounds ⅜ inch iron washers.
215	Pounds 1 inch iron washers.
40	Pounds ⅛ inch mixed gum packing.
29	Pounds ¼ inch pure gum packing.
1080	Pounds tarred hemp packing yarn.
280	Pounds pig lead.
25	Pounds white lead.
1	Band for 30 inch main pipe, 34 inches in diameter.
59	½ inch ferrules.
22	⅝ inch ferrules.
46	¾ inch ferrules.

CASH RECEIPTS FOR YEAR ENDING MARCH 31, 1897.

Cash on hand March 31, 1896		$ 7,943 40
Cash received for water rates		251,600 99
Cash received for materials and fixtures sold	$ 958 22	
Cash received for street service repairs account	1,126 89	
Cash received for plumbers' licenses	75 00	
Cash received for bills payable	50,000 00	
Cash received for improvements and extension account for materials sold and labor	620 92	
Cash received for alum sold	311 93	
Cash received for old iron, brass and copper sold	34 00	
Cash deposited by sundry meter consumers as security	110 00	
		53,236 96
		$312,781 35
Deduct amount returned to sundry meter consumers as above		115 00
		$312,666 35

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1897.

Street Service Repairs:			
Wages, materials and repairs...		$12,898 56	
Office Expenses:			
Salaries, wages, etc.....		10,157 28	
Hydrant Service:			
Salaries and wages—labor, etc..		11,240 95	
Pumping Service:			
Wages, labor, supplies and repairs..		13,964 90	
Improvements and Extensions:			
Wages, labor, material and new extensions.....		25,092 37	
Materials and specials bought.....		773 11	
Matured coupons paid.....		36,365 00	
Coal purchased		5,988 70	
Attorneys' fees and court costs.....		1,632 83	
Interest account.....		7,751 19	
Bills payable paid.....		40,000 00	
Dividends paid.....		100,205 00	
City taxes, 1896, paid.....		32,700 00	
State taxes, 1896, paid.....		11,118 05	
State licenses, 1897, paid.....		300 00	
Water Rates Refunded:			
First District.....	$136 33		
Second District	18 75		
Meter bills.....	26 20		
		181 28	
Rent of office and shop		1,800 00	
Stationery, printing and avertising..		536 50	
Telephones—rent of.....		273 00	
Miscellaneous and petty expenses...		20 42	
Cash in bank and petty cash.....		1,667 21	
			$312,666 35
Coal consumed.....			6,954 48

GENERAL BALANCE, MARCH 31, 1897.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	1,667 21	
Materials and fixtures on hand	9,085 67	
New Orleans Gas Light Company deposit	10 00	
Edison Electric Company deposit	10 00	
City of New Orleans for March	8,400 00	
Improvements and extensions (amount invested in)	845,276 74	
New Orleans Sewerage Co. due from them	235 29	
Coal on hand	1,489 82	
		$2,866,174 73

LIABILITIES—

Capital stock	$2,000,000 00	
First mortgage bonds	395,000 00	
Second mortgage bonds	250,000 00	
Bills payable	95,000 00	
Dividends unpaid	785 00	
First mortgage coupons, unpaid	30 00	
Meter bills, deposit account	208 00	
Profit and loss	125,151 73	
		$2,866,174 73

Bills for water rates in course of collection, not included in above assets $4,620 73

R. L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being duly sworn by me, notary, deposes and says that the foregoing is a true and correct copy and transcript from the books of the Company.

ATTEST:

R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

MEMORANDUM.

Due by city of New Orleans for hydrants, first half of year 1895, $4,220 00.

R. L. MACMURDO,
Secretary any Treasurer.

Sworn to and subscribed before me, notary, this 5th day of April, 1897.

{SEAL.}

CHAS. T. SONIAT,
Notary Public.

TWENTIETH ANNUAL REPORT

OF THE

New Orleans Waterworks Co.

OFFICERS.

R. E. CRAIG,	PRESIDENT.
A. BALDWIN,	VICE-PRESIDENT.
L. H. GARDNER,	SUPERINTENDENT.
R. L. MACMURDO,	SECRETARY AND TREASURER.

DIRECTORS.

R. E. CRAIG,	BY STOCKHOLDERS.
A. BALDWIN,	"
A. B. WHEELER,	"
G. W. NOTT,	"
HON. W. C. FLOWER, MAYOR,	EX-OFFICIO.
HON. GEO. B. PENROSE, CITY TREASURER,	"

APRIL 1st, 1898.

NEW ORLEANS:
A. W. HYATT STATIONERY MANUFACTURING CO., LTD., 77730.
1898.

PRESIDENT'S REPORT.

NEW ORLEANS, April 1st, 1898.

Board of Directors New Orleans Waterworks Company:

Gentlemen—In accord with Article 2d of the By-Laws I now submit a history of the operations of this Company during the past twelve months. The details are given in the accompanying reports of the Superintendent, and Secretary and Treasurer. The bonded debt of the Company is represented by its first mortgage bonds for $395,000.00, bearing six per cent. interest, payable semi-annually, and its second mortgage bonds for $250,000.00 bearing five per cent. interest, payable semi-annually; the additional indebtedness $110,000.00 is represented by Bills Payable—making a total debt of $755,000.00. "Improvements and Extensions account" stands at this date, $859,608.17, and shows expenditures made by the Company for the purposes indicated by the title of the account. This includes the amount realized from the sales of the bonds, $645,000.00, and the Bills Payable, $110,000.00, together with the additional sum of $104,608.17 from the revenues of the Company. We have been faithful in our efforts to carry out our contracts with all customers, including the contract with the city of New Orleans. The city has been fairly prompt in making the monthly payments for the current year for the water supply, but the amount of past due indebtedness by the city of the item of $4220.00, as referred to in my last report, has not yet been liquidated or provided for. We have had the benefit of the assistance and advice of the city members of the Board in the conduct of the affairs of the Company—the Mayor and Treasurer attending all meetings. During the greater portion of the year we have been favored with the vigilant guardianship of an industrious Special Committee appointed by the City Council; we are in treaty with the said committee looking—if the way be clear—to a reduction in the price to be paid by the city for fire hydrants that may be added to the number already placed. The Company is free

from litigation, with the exception of the suit mentioned in my last annual report to protect the rights of this Company on the question of "Consumers contiguous to the River." This suit is now pending in the United States Circuit Court.

Our expenses were increased and the revenues decreased to some extent by reason of the yellow fever last fall, as is shown in the statements contained in the Department reports, to which your attention is invited,

Respectfully submitted,

R. E. CRAIG,

President.

SUPERINTENDENT'S REPORT.

NEW ORLEANS, April 1, 1898.

President and Board of Directors New Orleans Waterworks Company:

Gentlemen—Since my last report the following

EXTENSIONS

of mains have been made:

In June, 1897—On Union street, from Baronne to Dryades street, 370 feet six-inch pipe, 2 six-inch valves. R. McNamara, Sr., contractor.

In June, 1897—On Locust street, from St. Andrew street to Felicity road, 207 feet six-inch pipe, and on St. Andrew street, from Baronne to Magnolia street, 3028 feet six-inch pipe, 60 feet of four-inch. 4 fire hydrants and 3 six-inch valves. R. McNamara, Sr., contractor.

In September, 1897—On Laurel street, from Jackson avenue to First street, 1049 feet six-inch pipe, 36 feet four-inch pipe, 2 fire hydrants, 1 six-inch valve. R. McNamara, Sr., contractor.

In November, 1897—On Jackson avenue, from Fulton to Rousseau street, 430 feet six-inch pipe, 18 feet four-inch pipe, 1 fire hydrant. R. McNamara, Sr., contractor.

In November, 1897—On Prytania from Marengo street to Napoleon avenue, 1129 feet six-inch pipe, 1 six-inch valve. R. McNamara, Sr., contractor.

In December, 1897—On Coliseum street, from State street to Louisiana avenue, 1151 feet four-inch pipe, 2 four-inch valves. Jas. C. Burns, contractor.

In December, 1897—On Clouet street, from Dauphine to Royal street, 350 feet six-inch pipe, 24 feet four-inch pipe, 1 fire hydrant. Jas. C. Burns, contractor.

In December, 1897—On Royal street, from Montegut to Clouet street, 550 feet six-inch pipe. Jas. C. Burns, contractor.

In December, 1897—On Montegut street, from Dauphine to Royal street, 351 feet six-inch pipe, 1 fire hydrant, 1 six-inch valve. Jas. C. Burns, contractor.

In December, 1897—On Maple street, from Carrollton avenue to Dublin street, 488 feet six-inch pipe, 17 feet four-inch pipe, 1 fire hydrant, 1 six-inch valve. R. McNamara, Sr., contractor.

In February, 1898—On Baronne street, from Amelia street to Penniston street, 306 feet six-inch pipe. R. McNamara, Sr., contractor.

In February, 1898—On Tchoupitoulas street, from Canal street to Girod street, 1715 feet ten-inch pipe, 23 feet six-inch pipe, 28 feet four-inch pipe, 4 ten-inch valves, 1 six-inch valve.

Also, on Poydras, from Magazine to Tchoupitoulas street, 365 feet twenty-inch pipe. Jas. C. Burns, contractor.

The ten-inch pipe on Tchoupitoulas street, noted above, lies parallel with a six-inch main, is connected therewith, and reinforced by 365 feet of twenty-inch pipe on Poydras street. This was done, not to secure revenue, but to afford additional fire protection for the locality. Six single nozzle fire hydrants on the line were replaced by six double nozzles.

Total extensions during the year are as follows:

Four-inch pipe	1,334 feet.
Six-inch pipe	8,281 feet.
Ten-inch pipe	1,715 feet.
Twenty-inch pipe	365 feet.
Total	11,695 feet.

Cost of same being $10,433.11.

The four-inch pipe laid as above was almost wholly a service pipe laid specially for the Louisiana Retreat and in a locality which does not promise other service demands upon it. The very small remainder is service pipes for fire hydrants.

Total in distribution to date, 121.50 miles.

In connection with the extensions above reported, there have been placed 10 fire hydrants and 16 main gates or valves.

THE USUAL ANNUAL DROUTH

prevailed last fall. The demand upon the Company's mains for relief was anticipated, and a large number of fire hydrants were opened daily by our employees for the purpose. Additionally, and in view of the prevalence of yellow fever and the unsanitary condition of many of our streets, the Company expressed its willingness and desire to furnish water free for flushing, to the extent of its ability, and in such manner as not to prevent its compliance with contracts with the city for fire purposes, and with steam users, and with other consumers. The Commissioner of Public Works, however, misapprehending his authority to do so, ordered fire hydrants opened indiscriminately all over the city for flushing gutters. The result was that, encouraged by the sight of free flowing plugs, private individuals lent liberal aid in the work of opening additional ones. The situation became serious. The interests of railroads, manufacturers, steam users generally, as well as private families, were imperilled, and water could not be delivered on the second floors of residences. No effort was made to enforce municipal ordinances protecting, or designed to protect, the Company's property.

A special meeting of the Board of Directors was convened, which was attended by the Mayor and City Treasurer (ex-officio members). It was explained that the Company was entirely willing to furnish all the water for flushing during the existing emergency that could be spared, consistently with its engagements and duties to paying consumers and the Fire Department. To compass all this, the Company simply desired to control and manage its own property and to be protected therein. It offered to furnish extra employes, at its own expense, to intelligently open and close fire hydrants, as well as to furnish the water. The Commissioner, upon being apprised of all the facts stated, adopted the suggestions.

Additionally, volunteer sanitary clubs were organized throughout the city. Each of these was, on application to this Company, furnished with the services of a specially appointed employe with hydrant keys, and subject to the orders and disposition of the chairmen of the clubs, who have expressed their full appreciation of the liberal facility thus afforded, and without which their work could not have been accomplished. The service above described was not fully discontinued until in December.

In the four months of September, October, November and December, 1897, the pumpage was 267,117,832 gallons in excess of same months of previous year. This excess was caused chiefly by the yellow fever conditions. At the low rate of 5 cents per 1000 gallons the value of this excess is $13,355.85.

An entirely satisfactory compensation for this lies in the conciousness of a public duty well performed, and the congratulations of public-spirited citizens whose praise and commendation have so often been expressed to the officers of the Company, together with the approval of the stockholders of the Company.

The annual "Blow-off" of the distribution was only partially accomplished last fall, owing to the unusual circumstances attendant upon that season, as referred to above.

PUMPING MACHINERY AND REPAIRS.

Repairs have been, for the most part, of an ordinary character. The most serious incident of the year, perhaps, in this regard, was in connection with the comparatively new suction pipe of the Allis pumps. The lead-caulking was forced out at several joints, and one length of the pipe split. There is no doubt in my mind but that the whole damage was caused by hydraulic ram, or the pumps "losing water." Engines and boilers are in good order and condition.

In order to the greater efficiency of the Allis engines, the thirty-inch suction pipe which formerly supplied the old discarded pumps was connected with the Allis pump. This old pipe is the uppermost one, and when the other intake pipes were extended, this one, together with its protecting crib, was practically abandoned until, as before said, its usefulness was made manifest.

Accordingly, it became necessary to extend it some twenty feet, or out to the wharf line, and there properly protect it. This work was begun, but owing to a rapid rise in the river it had to be abandoned until the next period of low water.

One comparatively inexpensive dredging last June was sufficient to keep the other intake pipes clear of the sediment deposited around their extremities.

The pond which existed in the square known as the "Knowles" lot has been filled with river sand excavated from the batture for the purpose, at an expense of about $400.00.

PUMPING PLANT EQUIPMENT.

This consists of:

One cross compound Beam engine, capacity, 20 million gallons daily.

Two vertical triple expansion Allis engines, daily capacity, 10 million gallons each.

One horizontal tandem compound Knowles engine, capacity, 7 million gallons daily.

Total capacity, 47 million gallons daily.

Four steel return tubular boilers, 20 feet x 5 feet, with Hawley down draft attachment.

Two steel return tubular boilers, 16 feet x 5 feet.

Two wrought-iron return tubular boilers, 16 feet x 4½ feet.

One independent Cameron feed pump.

One independent Beam or "doctor" feed pump.

I herewith hand you the Engine record for the past year, showing the quantity of water pumped, by months, the average head in feet maintained, quantity of coal consumed, etc., together with a detailed statement of work done by the Street Department, and inventory of pipes, etc., on hand for extensions and repairs.

Inventory of tools and materials on hand for use at the Pumping Station and in the foreman's shop has been made and is on file in the office.

Respectfully submitted,

L. H. GARDNER,
Superintendent.

ENGINE RECORD, MARCH 30, 1897, TO MARCH 31, 1898.

Month	Gallons of Water Pumped	Average Head in feet	Coal Consumed, Barrels of 180 Pounds.			Duty (Pounds raised one Foot with 100 lbs coal) Banking not included	Gallons pumped with 1 lb of coal	Per cent. of Dry Ashes and Cinders	Average of River below bed Plate of Engine.	Gallons Oil	Pounds Cotton Waste	Total Gallons Pumped
			Pumping	Banking	Total							
1897												
April.....	145,178,967	78	881	.....	.....	59,547,175	915	.....	.....	.....	.....	.....
	115,637,034	78	721	72	1,674	57,998,614	891	6.	Above.	121	102	260,816,001
May	176,975,895	80	977	.....	.....	67,128,094	1,006	.....	.....	.....	.....	.....
	144,624,516	80	795	26	1,798	67,369,743	1,010	6.	Above.	140	92	321,600,411
June	216,027,120	81	1,319	.....	.....	61,446 299	909	.....	.....	.....	.....	.....
	167,502,258	81	890	15	2,224	70,589,379	1,045	6.	5 ft. 9 in	172	120	383,529,378
July	188,283,622	86	1,211	.....	.....	61,918,635	863	.....	.....	.....	.....	.....
	159,759,178	86	933	80	2,224	67,802,173	945	5.75	12 ft.	161	104	348,042,800
August	180,541,977	83	971	.....	.....	71,519,183	1,033	.....	.....	.....	.....	.....
	140,392,239	83	819	00	1,790	65,928,710	980	6.	13½ ft.	136	72	320,934,216
September ..	288,105,075	89	2,003	.....	.....	59,320,075	800	.....	.....	.....	.....	.....
	177,581,227	89	931	66	3,000	78,646,445	1,594	6.	15 ft.	190	131	465,686,302
October.....	301,152,620	89	2,138	.....	.....	58,060,428	782	.....	.....	.....	.....	.....
	194,141,085	89	1,372	135	3,645	58,017,065	786	6.	15 ft	212	194	495,293,705
November...	243,858 631	90	1,637	.....	.....	62,110,718	827	.....	.....	.....	.....	.....
	140,130,700	90	938	122	2,697	69,194,200	929	6.	15½ ft.	171	182	383,989,331
December ...	218,813,197	98	1,354	.....	.....	73,355,343	900	.....	.....	.....	.....	.....
	153,260,382	98	998	69	2,421	69,745,420	854	6.	15½ ft.	162	122	372,073,489
Jany. 1898..	175,114.365	100	1,084	.....	.....	74,856,679	900	.....	.....	.....	.....	.....
	117,479,440	100	741	15	1,840	73,446,666	881	6.	10½ ft.	137	102	292,593,805
February	155,500,463	93	954	.....	.....	70,621,812	905	.....	.....	.....	.....	.....
	102,893,845	93	622	12	1,588	71,287,630	919	6.	4½ ft.	106	103	258,394,248
March	173,314,680	95	896	.....	.....	85,632,719	1,074	.....	.....	.....	.....	.....
	104,752,956	95	612	6	1,514	75,710,143	951	6.	7½ ft.	127	110	278,067,636
Totals.....	4,181,021,322		25,797	618	26,415	.....	.....	.....	.....	1835	1434	4,181,021,322

NUMBER AND DESCRIPTION OF FIRE HYDRANTS IN CITY DISTRIBUTION.

Wooden case	753
Holly	736
Underground or flush	119
Mathew	41
Iron case	33
Boston	3
Fire wells	82—1767
Main stop cocks or gates	989

DISTRIBUTION—CAST IRON PIPES.

3-inch	40,292 ft.	10-inch	39,817 ft.	20-inch	8,770 ft.
4-inch	89,103 ft.	12-inch	15,621 ft.	24-inch	7,166 ft.
6-inch	230,072 ft.	16-inch	21,175 ft.	30-inch	17,781 ft.
8-inch	145,384 ft.	18-inch	23,476 ft.	36-inch	3,600 ft.

Or say, 121.50 miles.

MEAN TEMPERATURE AND RAIN FALL IN NEW ORLEANS FOR PAST FOURTEEN YEARS.

MEAN TEMPERATURE.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Jan...	47	52	39	51	56	51	65	53	49	50	58	52	52	51	59
Feb ..	61	53	42	65	59	52	64	62	61	61	55	58	56	58	57
Mar..	65	58	58	62	60	58	62	61	59	61	63	62	61	69	65
Apr..	68	70	65	68	70	70	70	68	69	72	70	68	71	68	...
May	76	74	72	75	73	74	74	74	74	76	75	74	78	75	...
June	79	82	79	78	77	78	80	81	79	80	78	80	80	82	...
July..	85	83	80	80	81	83	81	81	80	83	79	82	83	84	...
Aug..	82	75	81	81	75	81	80	81	82	82	80	82	83	82	...
Sept.	81	72	78	77	75	79	77	78	77	80	80	82	79	79	...
Oct....	74	56	69	69	68	70	69	68	71	69	71	69	70	74	...
Nov..	60	51	59	61	62	50	64	60	62	60	60	60	65	64	...
Dec...	59	46	51	53	51	64	56	56	56	58	58	54	55	57	...

RAIN FALL.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Jan..	4 35	9.70	7.53	4.26	3.29	6.51	.66	3.75	5.87	2.50	1.76	7 19	2.33	1.92	1.71
Feb ..	3.16	2.39	1.96	5.58	11.21	2.78	2.27	7.42	0.04	4.92	11.06	3.92	2.78	4.82	6.20
Mar..	8.24	6.99	8.41	3.37	6.45	3.86	1.45	2.67	2.82	3.49	5.94	3.81	5.29	4.82	0.80
Apr..	6.48	3.67	5.60	1.87	1.89	2.28	3.46	.26	10.44	3.70	4.71	2.58	5.00	5.75	.....
May..	4.33	5.77	3.07	3.99	9.75	1.17	5.32	.76	2.62	2.66	1.79	7.95	2.80	.... .	.....
June	8 60	3.30	9.30	11.33	9.09	7.62	7.71	4.45	5.46	5.30	5.19	9.74	8.23	4.82	.....
July..	4.12	6.15	4.35	7.85	2.04	9.13	6.59	4.57	7.46	3 72	11.51	6.07	2.94	4.72	.....
Aug..	.87	4.25	2.40	7.42	22.74	5.59	3.62	1.69	6 96	4.56	7.32	6.79	3.31	3.12	.....
Sept.	3. 12	13.55	4.09	6.51	4.15	6.40	2.85	3.43	6.33	4.38	92	1.97	5.26	3.19	.....
Oct....	5.60	.56	.22	4.71	7.36	.26	5.24	2.38	2.14	4.24	.89	1.21	5.14	2.40	.....
Nov..	3.13	3.47	5.33	.52	1.50	2.18	0.42	3.31	3.55	6.24	1.34	0.69	2.82	3.38	.....
Dec...	8.01	4.38	2.57	7.56	3.68	.67	2.58	3.93	3.22	2.31	2.01	4.52	3.77	4.00	.....

STOCK ON HAND FOR IMPROVEMENTS AND EXTENSIONS.

Cast Iron Pipe.

49 pieces 3 inch pipe, 12 feet long.
62 pieces 4 inch pipe, 12 feet long.
18 pieces 6 inch pipe, 12 feet long.
94 pieces 8 inch pipe, 12 feet long.
24 pieces 10 inch pipe, 12 feet long.
1 piece 12 inch pipe, 12 feet long.
4 pieces 15 inch pipe, 12 feet long.
5 pieces 18 inch pipe, 12 feet long.
2 pieces 20 inch pipe, 12 feet long.
4 pieces 24 inch pipe, 12 feet long.
23 pieces 30 inch pipe, 12 feet long.
12 pieces 36 inch pipe, 12 feet long.
3 pieces of 48 inch pipe, 12 feet long.
9 feet of 16 inch pipe, in 2 pieces.
3 feet of 18 inch pipe, in 1 piece.
24 feet of 24 inch pipe, in 4 pieces.
3½ feet of 30 inch pipe, in 1 piece.
5 feet of 30 inch pipe, in 1 piece.
8 feet of 30 inch pipe, in 1 piece.
11 feet of 30 inch pipe, in 1 piece.
4 feet of 36 inch pipe, in 1 piece.
5 feet of 36 inch pipe, in 1 piece.

Bends.

10 4 inch quarter bends.
13 6 inch quarter bends.
15 8 inch quarter bends.
2 10 inch quarter bends.
13 3 inch eighth bends.
17 4 inch eighth bends.
24 6 inch eighth bends.
16 8 inch eighth bends.
3 10 inch eighth bends.
1 12 inch eighth bend.
1 16 inch easy bend.
2 30 inch easy bends.

Branches.

4 3 x 3 x 3 three way branches (2 bell ends).
1 3 x 3 x 3 three way branches (3 bell ends).
3 4 x 4 x 3 three way branches (3 bell ends).
10 4 x 4 x 3 three way branches (2 bell ends).
7 4 x 4 x 4 three way branches (2 bell ends).

BRANCHES—Continued.

10	6	x 6	x 3	three way branches (2 bell ends).
21	6	x 6	x 4	three way branches (2 bell ends).
7	6	x 6	x 6	three way branches (2 bell ends).
2	8	x 8	x 3	three way branches (3 bell ends).
11	8	x 8	x 3	three way branches (2 bell ends).
21	8	x 8	x 4	three way branches (2 bell ends).
4	8	x 8	x 6	three way branches (2 bell ends).
1	8	x 8	x 6	three way branches (3 bell ends).
25	8	x 8	x 8	three way branches (2 bell ends).
3	10	x 10	x 3	three way branches (3 bell ends).
21	10	x 10	x 4	three way branches (2 bell ends).
13	10	x 10	x 6	three way branches (2 bell ends).
1	10	x 10	x 6	three way branches (3 bell ends).
2	10	x 10	x 8	three way branches (2 bell ends).
2	10	x 10	x 10	three way branches (2 bell ends).
5	12	x 12	x 6	three way branches (2 bell ends).
2	12	x 12	x 8	three way branches (3 bell ends).
1	12	x 12	x 12	three way branches (3 bell ends).
1	16	x 16	x 8	three way branches (3 bell ends).
2	30	x 30	x 6	three way branches (1 bell end).
5	30	x 30	x 12	three way branches (3 bell ends).
9	3	x 3	x 3 x 3	four way branches (3 bell ends).
10	4	x 4	x 3 x 3	four way branches (3 bell ends).
19	4	x 4	x 4 x 4	four way branches (3 bell ends).
9	4	x 4	x 4 x 4	four way branches (4 bell ends).
19	6	x 6	x 3 x 3	four way branches (3 bell ends).
24	6	x 6	x 4 x 4	four way branches (3 bell ends).
5	6	x 6	x 6 x 6	four way branches (4 bell ends).
24	6	x 6	x 6 x 6	four way branches (3 bell ends).
10	8	x 8	x 3 x 3	four way branches (3 bell ends).
11	8	x 8	x 4 x 4	four way branches (3 bell ends).
1	8	x 8	x 6 x 6	four way branches (4 bell ends).
21	8	x 8	x 6 x 6	four way branches (3 bell ends).
1	8	x 8	x 8 x 8	four way branches (4 bell ends).
20	8	x 8	x 8 x 8	four way branches (3 bell ends).
8	10	x 10	x 3 x 3	four way branches (3 bell ends).
13	10	x 10	x 4 x 4	four way branches (3 bell ends).
1	10	x 10	x 6 x 6	four way branches (2 bell ends).
14	10	x 10	x 6 x 6	four way branches (3 bell ends).
8	10	x 10	x 8 x 8	four way branches (3 bell ends).
2	12	x 12	x 8 x 8	four way branches (3 bell ends).
4	16	x 16	x 6 x 6	four way branches (3 bell ends).
5	16	x 16	x 8 x 8	four way branches (3 bell ends).
1	16	x 16	x 12 x 12	four way branches (3 bell ends).
1	20	x 20	x 8 x 8	four way branches (3 bell ends).
1	20	x 20	x 10 x 10	four way branches (3 bell ends).
1	30	x 30	x 8 x 8	four way branches (3 bell ends).

Reducers.

4 4 to 3 reducers.
1 6 to 3 reducer.
24 6 to 4 reducers.
5 8 to 3 reducers.
6 8 to 4 reducers.
13 8 to 6 reducers.
1 12 to 6 reducer.
2 12 to 8 reducers.
1 12 to 10 reducer.
1 16 to 12 reducer.
1 18 to 16 reducer.
1 20 to 12 reducer.

Sleeves.

13 3 inch sleeves, 18 inches long.
7 4 inch sleeves, 18 inches long.
6 6 inch sleeves, 18 inches long.
19 8 inch sleeves, 18 inches long.
2 10 inch sleeves, 10 inches long.
3 10 inch sleeves, 18 inches long.
1 12 inch sleeve, 12 inches long.
1 16 inch sleeve, 12 inches long.
9 16 inch sleeves, 18 inches long.
1 16 inch sleeve, 30 inches long.
2 18 inch sleeves, 15 inches long.
10 18 inch sleeve, 18 inches long.
1 24 inch sleeve, 18 inches long.
2 30 inch sleeves, 16 inches long.
1 30 inch sleeve, 24 inches long.
1 36 inch sleeve, 15 inches long.
2 10 inch half sleeves, 10 inches long.
2 12 inch half sleeves, 10 inches long.
2 16 inch half sleeves, 18 inches long.
2 18 inch half sleeves, 18 inches long.
1 36 inch half sleeve, 30 inches long.

Fire Hydrants, Etc.

14 Double Holly fire hydrants.
9 Single Holly fire hydrants.
8 Wood Case fire hydrants
47 Jackets for double Holly fire hydrants.
34 Jackets for single Holly fire hydrants.
9 Morgan stop cock cases.
30 Covers for Morgan cases.
22 5½ foot valve rods for Holly hydrants.
3 3 foot valve rods for Holly hydrants.

FIRE HYDRANTS, ETC.—Continued.

20 12 inch extension pieces for double Holly hydrants.
22 15 inch extension pieces for double Holly hydrants.
28 18 inch extension pieces for double Holly hydrants.
31 24 inch extension pieces for double Holly hydrants.
13 12 inch extension pieces for single Holly hydrants.
20 15 inch extension pieces for single Holly hydrants.
14 18 inch extension pieces for single Holly hydrants.
10 24 inch extension pieces for single Holly hydrants.

VALVES.

2 3 inch Chapman valves.
22 4 inch Chapman valves.
15 6 inch Chapman valves.
1 6 inch Chapman valve, flanged.
14 8 inch Chapman valves.
1 8 inch Rensellaer valve.
1 8 inch Eddy valve.
2 10 inch Chapman valves.
1 10 inch R. D. Wood valve.
2 12 inch Chapman valves.
1 18 inch Chapman valve.
1 20 inch Boston Machine valve.
6 3 inch straight cypress plugs.
4 4 inch straight cypress plugs.
27 8 inch straight cypress plugs.
1 4 inch taper cypress plug.
6 6 inch taper cypress plugs.
11 8 inch taper cypress plugs.
19 10 inch taper cypress plugs.
2 4 inch cast iron plugs.
1 8 inch cast iron plug.
1 16 inch cast iron plug.
1 30 inch cast iron plug.
160 pigs of lead at 83.3 lbs. per pig=13,328 lbs.

FIRE HYDRANT CHANGES.

Removed broken Mathew fire hydrant and placed single nozzle Holly fire hydrant on Magazine street, between Louisiana avenue and Delachaise street.

Removed broken Philadelphia fire hydrant and placed single nozzle Holly fire hydrant on St. Charles avenue, between Poydras and Lafayette streets.

Removed underground fire hydrant on corner S. Peters and Orange streets, and placed a single nozzle Holly.

Removed underground fire hydrant and placed wooden case fire hydrant on Rampart street, between Melpomene and Terpsichore streets.

Fire Well Changes.

Removed fire well from St. Roch's market and placed new brick fire well in street intersection of St. Roch and St. Claude streets instead, and using the following material: 36 feet 6 inch pipe, 1 6 inch Chapman flange valve, 2 pieces flange pipe, 6 inch, 1 large iron well cover.

PRIVATE WORK DONE.

Drilling Mains for Plumbers and Repairs for Private Persons.

16 ¾ inch ferrules.
100 ⅝ inch ferrules.
44 ¾ inch ferrules.
160 Holes drilled.
14 Closing of main stop cocks for plumbers to repair service pipes.
10 Drawing ferrules from main pipes for plumbers.
7 Repairs to service pipes.
2 4 inch Thompson & West iron screws.
1 Elevator disconnected in street.
1 Elevator stand pipe taken down,
40 Square yards block stone pavement.
2 Single nozzle Holly plugs broken and replaced.

Material Used for Repairs to Wooden Case Fire Hydrants.

602 Leaking wooden case fire hydrants repaired.
1 Underground plug removed and replaced with wooden-case hydrant.
145 Wrought iron rods.
145 Wrought iron screws and clamps.
290 Wrought iron keys to fasten screw clamps.
90 Wrought iron hooks for top staves for repairs to wooden cases.
8 Wrought iron top bands for repairs to wooden cases.
24 Wrought iron middle bands for repairs to wooden cases.
12 Wrought iron bottom bands for repairs to wooden cases.
24 Wrought iron bolts and nuts.
145 Cast iron flange valves, small.
145 Cast iron flange valves, large.
2 Cast iron top covers, with hinges.
35 Brass nozzles to replace broken ones.
91 Bent nozzles straightened and filed.
130 Cypress cases and covers with hinges.
90 Cypress top staves and hooks for repairs to old cases.
18 Cypress bottom staves and hooks for repairs to old cases.
12 Cypress back staves and hooks for repairs to old cases.

MATERIAL USED FOR REPAIRS TO WOODEN CASE FIRE HYDRANTS—Continued.

145 Gum valves.
145 Joints made.
602 Joints caulked.
602 Packings renewed.
270 ½ inch bolts and nuts to fasten hooks to top staves.

MATERIAL USED FOR REPAIRS TO UNDERGROUND OR FLUSH HYDRANTS.

91 Leaking underground fire hydrants repaired.
1 Underground fire hydrant removed and replaced with single nozzle Holly hydrant.
1 Underground fire hydrant removed and replaced with wooden case hydrant.
16 Copper rods.
24 Wrought iron rods.
35 Wrought iron screws with brass nuts.
70 Wrought iron stirrups and nuts.
35 Wrought iron buttons.
35 Wrought iron slats.
35 Cast iron flanges, small.
35 Cast iron flanges, large.
4 Boiler iron covers to replace broken ones.
35 Brass nuts for screws.
8 Brass nozzles to replace broken ones.
18 Brass nozzles straightened and filed.
35 Gum valves.
10 Cypress cases.
91 Joints caulked.
91 Packings renewed.

MATERIAL USED FOR REPARING HOLLY FIRE HYDRANTS.

452 Leaking Holly fire hydrants.
1 Holly fire hydrant to replace Mathew fire hydrant.
1 Holly fire hydrant to replace underground fire hydrant.
1 Holly fire hydrant to replace Philadelphia fire hydrant.
8 Wrought iron rods.
452 Wrought iron screws covered with brass.
452 Cast iron valves.
452 Cast iron valve seats.
3 Cast iron ferrules to cover valve screws.
8 Cast iron top covers.
4 Cast iron outside jackets.
12 Brass glands for packing boxes.
10 Brass nozzles to replace broken ones.
17 Bent nozzles straightened and threads filed.
452 Gum valves.

MATERIAL USED FOR REPAIRING HOLLY FIRE HYDRANTS—Continued.

64 ½ inch stub bolts.
24 ½ inch top bolts.
24 ⅝ inch machine bolts.
452 Lead joints.
452 Joints caulked.
452 Packings renewed.

MATERIAL USED FOR REPAIRING MATHEW FIRE HYDRANTS.

18 Leaking Mathew fire hydrants repaired.
1 Broken Mathew fire hydrant replaced with S. N. Holly.
4 Hollow brass nuts.
2 Cast iron tops.
18 Gum valves.
18 Joints caulked.
18 New joints.
18 Packings renewed.

MATERIALS USED FOR REPAIRING BOSTON FIRE HYDRANTS.

1 Leaking Boston fire hydrant repaired.
1 Gum valve.
1 Joint caulked.
1 Packing renewed.

MATERIAL USED FOR REPLACING BROKEN MAIN GATES.

3 8 inch Chapman gate valves for fire wells.
1 6 inch Chapman gate valve for fire well.
26 Screws furnished for main gates and fire wells.
8 3 inch Thompson & West iron screws.
2 4 inch Thompson & West iron screws.
5 6 inch Thompson & West iron screws.
3 8 inch Thompson & West iron screws.
4 18 inch Thompson & West iron screws.
4 8 inch Chapman iron screws.
264 ⅝ inch machine bolts and nuts.
541 Leaking main gates repaired.
62 Leaking fire well gates repaired.
11 Cast iron glands or packing box caps.
1080 New packing box bolts and nuts.
4 Main gates for fire wells abandoned.
92 Raising frames and cover of main gates to level of street.
4 Raising frames and cover of fire well to line of street.
15 Wooden cases for main gates.
384 Wooden frames to raise frame and covers to line of street.
7 New cast iron frames and covers placed.
541 Joints caulked on main gates.
541 Packing renewed on main gates.
62 Joints caulked on fire well gates.
62 Packing renewed on fire well gates.

Material Used to Replace Broken Main Pipes with New Pipes.

4 Plugs blown out of main pipes and branches.
1 4 inch cypress straight plug.
3 6 inch cypress straight plugs.
1 8 x 4 three way taken out and replaced with new one.
1 3 x 3 three way taken out and replaced with new one.
24 Feet 3 inch pipe.
72 Feet 4 inch pipe.
40 Feet 4 inch pipe, over Canal, St. Ann and Claiborne streets.
40 Feet 3 inch pipe, over Canal, Gasquet and Galvez streets.
24 Feet 6 inch pipe.
24 Feet 8 inch pipe.
12 Feet 36 inch pipe, suction pipe broken and replaced.
4 4 inch ¼ bends.
6 4 inch sleeves.
4 3 inch sleeves.
3 6 inch sleeves.
3 8 inch sleeves.
1 36 inch sleeve, for suction pipe.
2 Double sets of 36 inch clamps used on suction pipe.

Material Used for Repairs to Main Pipes.

664 Leaks repaired on main pipes from 3 inch to 20 inch.
4 Leaks repaired on 24 inch pipe.
84 Leaks repaired on 30 inch pipe.
3 Leaks repaired on 36 inch pipe.
2 Leaks repaired on 30 inch suction pipe.
4 Leaks repaired on 36 inch suction pipe.
8 Joints blown out on 30 inch main, caulked back and clamped.
3 Leaks on cement pipe repaired.
16 Wrought iron bands with bolt, nuts and washers for 30 inch joints to be held in place.
84 Diggings for service stop cocks.
9 Drawing ferrules from main pipes.
2 Service pipes cut in street.
4 Closing of main stop cocks for contractors.

Paving for All Repairs Done.

5103 Square yards paving.
1974 Square yards flagging.
3160 Square yards bricking.
60 Square yards Schillinger pavement.
9 Square yards vitrified pavement.
10 Loads river sand.
984 Loads cinders.
5 Barrels cement.
5 Barrels sand.
500 Paving brick.

LEAD, COAL AND HEMP PACKING USED ON ALL REPAIRS.

1073 Pounds pig lead.
2100 Pounds coal.
120 Pounds tarred hemp packing.

MATERIAL ON HAND IN WORKSHOP FOR REPAIRS TO WOODEN CASE, UNDERGROUND, AND PHILADELPHIA FIRE HYDRANTS.

8 Wooden case fire hydrants in good repair.
5 Wooden case fire hydrants out of order.
4 Philadelphia fire hydrants in good repair.
4 Philadelphia fire hydrants out of order.
4 Underground fire hydrants in good repair.
6 Underground fire hydrants out of order.
2 Philadelphia iron cases for fire hydrants in good repair.
3 Philadelphia iron cases for fire hydrants out of order.
46 Wrought iron rods for wooden case fire hydrants.
24 Wrought iron rods for Philadelphia fire hydrants.
7 Wrought iron rods for underground fire hydrants.
8 Copper rods for underground fire hydrants.
8 Wrought iron screws with clamps.
31 Wrought iron screws without clamps.
52 Wrought iron buttons.
280 Wrought iron slats.
90 Wrought iron keys to fasten clamps.
14 Wrought iron middle bands for wooden cases.
4 Wrought iron bottom bands for wooden cases.
98 Cast iron valve flanges, small.
51 Cast iron valve flanges, large.
36 Wrought iron hooks for wooden cases.
7 Wooden cases for fire hydrants.
32 Brass nozzles for fire hydrants.
39 Gum valves.
4 3 inch goose-necks for fire hydrants.
3 4 inch goose-necks for fire hydrants.

MATERIAL ON HAND IN WORKSHOP FOR STREET SERVICE REPAIRS TO HOLLY FIRE HYDRANTS.

96 Wrought iron screws covered with brass.
28 Cast iron valves for single nozzles.
33 Cast iron valves seats for single nozzles.
34 Cast iron valves for double nozzles.
33 Cast iron valve seats for double nozzles.
13 Cast iron outside jackets for single nozzles.
7 Cast iron outside jackets for double nozzle hydrants.
17 Cast iron extensions for single nozzle hydrants.

MATERIAL ON HAND IN WORKSHOP FOR STREET SERVICE REPAIRS TO HOLLY FIRE HYDRANTS—Continued.

21 Cast iron extensions for double nozzle hydrants.
41 Cast iron top covers for single nozzle hydrants.
54 Cast iron top covers for double nozzle hydrants.
98 Cast iron ferrules to cover valve screws.
21 Brass nozzles.
45 Brass glands for packing boxes.
151 One inch top bolts for extensions.
228 ¼ inch stud bolts and nuts for top covers.
143 ⅝ inch T head bolts and nuts for outside jacket.
23 Gum valves.
25 Single nozzle iron rods for Holly fire hydrants.
30 Double nozzle iron rods for Holly fire hydrants.
11 O. G. top section for single nozzle fire hydrants.
13 O. G. top section for double nozzle fire hydrants.

FOR REPAIRS TO MATHEW FIRE HYDRANTS.

30 Brass hollow screws for Mathew hydrants.
44 Gum valves for Mathew and Boston hydrants.

MATERIALS ON HAND FOR STREET SERVICE REPAIRS IN WORKSHOP, FOR REPAIRS TO MAIN STOP COCKS.

14 3 inch Thompson & West Screws.
10 4 inch Thompson & West screws.
8 6 inch Thompson & West screws.
17 8 inch Thompson & West screws.
3 10 inch Thompson & West screws.
20 12 inch Thompson & West screws.
11 16 inch Thompson & West screws with brass nuts.
12 18 inch Thompson & West screws with brass nuts.
12 6 inch iron screws for Whittier or Boston main stop cock.
12 8 inch iron screws for Whittier or Boston main stock cock.
12 10 inch iron screws for Whittier or Boston main stop cock.
12 12 inch iron screws for Whittier or Boston main stop cock.
12 20 inch iron screws for Whittier or Boston main stop cock.

EDDY OR R. D. WOODS' IRON SCREWS FOR MAIN STOP COCKS.

23 6 inch iron screws.
23 8 inch iron screws.
7 10 inch iron screws.
3 12 inch iron screws.

CHAPMAN IRON SCREWS FOR MAIN STOP COCKS.

8 3 inch iron screws for main stop cocks.
9 10 inch iron screws for main stop cocks.
11 6 inch iron screws for main stop cocks.
15 8 inch iron screws for main stop cocks.

Ludlow or Boston Iron Screws for Main Stop Cocks.

8 8 inch iron screws for main stop cocks.
39 Unfinished cast iron glands, from 3 to 12 inches, for main stop cock.
37 Unfinished cast iron glands from 16 to 18 inches, for main stop cocks.
115 Finished cast iron glands, from 3 to 8 inches.
31 Packing box bolts and nuts for Chapman main stop cocks.
4 Wooden cases for main stop cocks.
9 Wooden frames for raising main stop cock covers.
7 Morgan frames and covers.
1 Square frame and cover for main stop cock.

Material in Yard or Workshop For Street Service Repairs.

4 Lengths 3 inch pipe (also included in general inventory).
4 Lengths 4 inch pipe (also included in general inventory).
3 Lengths 6 inch pipe (also included in general inventory).
4 Lengths 8 inch pipe (also included in general inventory).
2 Lengths 10 inch pipe (also included in general inventory).
3 3 inch sleeves (also included in general inventory).
3 4 inch sleeves (also included in general inventory).
5 6 inch sleeves (also included in general inventory).
4 8 inch sleeves (also included in general inventory).
3 10 inch sleeves (also included in general inventory).
1 4 x 4 cast iron branch.
1 6 inch saddle for 16 inch pipe.
1 4 to 7 inch cypress tapering plug.
1 5 to 10 inch cypress tapering plug.
6 3 and 4 inch cypress straight plugs.
10 8 inch cypress straight plugs
160 Pounds ¾ inch iron washers.
200 Pounds 1 inch iron washers.
13 Pounds ⅛ inch gum packing.
28 Pounds ¼ inch pure gum packing.
960 Pounds tarred hemp packing.
105 Pounds pig lead.
80 Pounds white lead.
8 Double bands for 30 inch joints.
44 ½ inch ferrules.
47 ⅝ inch ferrules.
61 ¾ inch ferrules.

CASH RECEIPTS FOR YEAR ENDING MARCH 31, 1898.

Cash on hand March 31, 1897		$ 1,667 21
Cash received for water rates		246,414 11
Cash received for materials sold		649 63
Cash received for street service, repairs, etc		545 50
Cash received for old iron, brass, copper and ashes sold		109 80
Cash received for plumbers' licenses		25 00
Cash received for bills payable		15,000 00
Cash received from improvements, extensions account for materials sold and labor		321 71
Cash deposited by sundry consumers as security for water through meters	$214 00	
Less amount returned to sundry consumers	130 00	84 00
		$264,816 96

CASH DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1898,

Street Service Repairs:		
Wages, materials and repairs.....	$ 10,852 69	
Office Expenses:		
Salaries, wages, etc.....	10,020 13	
Hydrant Service:		
Salaries, wages, labor, etc.....	12,971 00	
Pumping Service:		
Wages, labor, supplies and repairs	14,940 45	
Improvements and Extensions:		
Wages, labor, materials and new extensions.....	13,902 74	
Materials and specials bought.....	440 97	
Matured coupons paid.....	36,020 00	
Coal purchased	8,020 28	
Attorney's fees and court costs.....	1,553 85	
Interest Account.....	7,555 15	
Dividends paid—		
No. 26, declared...October, 1894...	2 50	
No. 27, " April, 1895....	2 50	
No. 28, " October, 1895....	2 50	
No. 29, " April, 1896...	65 00	
No. 30, " October, 1896....	712 50	
No. 31, " April, 1897...	49,982 50	
No. 32, " October, 1897...	49,635 00	
Taxes, city, 1897.....	32,700 00	
Taxes, State, 1897.....	11,445 05	
License, State, 1898	300 00	
Water Rates refunded—		
First District..... $57 58		
Second District 58 50		
	116 08	
Rent of office and shop.....	1,560 00	
Stationery, printing and advertising...	472 20	
Rent of telephones.....	269 00	
Miscellaneous and petty expenses.....	36 52	
Cash in bank and petty cash.....	1,238 35	
		$264,816 96
Coal consumed.....		7,187 01

GENERAL BALANCE, MARCH 31, 1898.

ASSETS—

Invested capital	$2,000,000 00	
Cash on hand	1,238 35	
Materials and fixtures on hand	8,824 81	
New Orleans Gas Light Company deposit	10 00	
Edison Electric Company deposit	10 00	
Improvements and extensions	859,608 17	
F. Jahncke, Receiver, for J. J. Clark	22 25	
Weckerling Brewing Co	172 95	
City of New Orleans for March	8,445 00	
Coal on hand	2,323 09	
		$2,880,654 62

LIABILITIES—

Capital stock	$2,000,000 00	
First mortgage bonds	395,000 00	
Second mortgage bonds	250,000 00	
Bills payable	110,000 00	
First mortgage coupons, unpaid	210 00	
Meter bills, deposit account	292 00	
Dividends unpaid April 7, 1897	$ 17 50	
Dividends unpaid Oct. 6, 1897	365 00	
	382 50	
Profit and loss	124,770 12	
		$2,880,654 62
Bills for water rates in course of collection, not included in above assets		3,654 50

R. L. Macmurdo, Secretary and Treasurer of the New Orleans Waterworks Company, who, being duly sworn by me, notary, deposes and says that the foregoing is a true and correct copy and transcript from the books of the Company.

ATTEST:
R. E. CRAIG,
President.

R. L. MACMURDO,
Secretary and Treasurer.

MEMORANDUM.

Due by the city of New Orleans, for hydrants, first half of year 1895, $4,220.00.

Sworn to and subscribed before me, notary, this 5th day of April, 1898.

SEAL.

CHAS. T. SONIAT,
Notary Public.